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OF

AGRICULTURE, MANUFACTURES, MECHANIC ARTS, INTERNAL IMPROVEMENT, COMMERCE,

AND

GENERAL LITERATURE.

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M. TARVER AND T. F. RISK,

EDITORS AND PROPRIETORS.

PUBLISHED MONTHLY.

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N. B.—To whom reference will be given by calling at the School Room.

March 1, 1848.

THE

WESTERN JOURNAL,

M. TARVER AND T. F. RISK,

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THE

WESTERN JOURNAL.

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ART. I.—THE NATURAL LAWS OF COMMERCE.

Having shown in our last number that the current of commerce has hitherto followed the course of civilization from east to west, we shall proceed to consider some of the causes which are calculated, as we conceive, to give it a different direction in future.

The vast plains and mountains which separate the fertile portion of the Valley of the Mississippi from the productive valleys west of the Rocky Mountains, constitute a barrier to the progress of commerce from east to west; and, although the spirit of enterprise, and the love of adventure will induce many of our citizens to emigrate to the shores of the Pacific, yet, without a rail-way, or some mode of transportation, perhaps cheaper still, it will be impracticable to establish commercial intercourse across the mountains and plains which divide the two regions.

This barrier to the progress of commerce towards the west, will constitute an era in commercial history; for having subserved the purpose of exchanging the agricultural products of the newly settled countries for the manufactures of the old, the current will change from east to west, and in obedience to natural laws, flow from the equator in the direction of the poles, carrying the luxuries of the tropics to the inhabitants of colder climes, and returning with the more substantial products of the temperate zones. Thus, the bounties of Nature will be distributed among the inhabitants of every clime; and while, by the agency of commerce the physical comforts of every region will be increased, those prejudices which are so liable to exist between the people of the north and the south, will be removed, and social intercourse and universal sympathy prevail in their stead.

The great extent, the physical geography, and natural wealth of the Valley of the Mississippi, all point to the adoption of a separate and distinct system of commerce, differing in many respects from all others. Embracing every element

necessary to human subsistence, the west will require but little from foreign countries; and hence, the foreign trade will bear but a very small proportion to the internal commerce.

To give some idea of the tendency of commerce to move on a line from north to south, and the comparative decrease of the foreign trade of the United States, we refer to a tabular statement made by Col. Childs, editor of the Philadelphia "*Commercial List*," showing the number of arrivals at Philadelphia, from foreign ports and coastwise, from the year 1787 to 1848. From this we perceive, that the average number of foreign arrivals, for the five years ending with the year 1805, was 595; and that the arrivals from coastwise during the same time, averaged 1,156, for each year; and that for the five years ending with the year 1845, the average annual arrivals from coastwise had increased from 1,156 to 8,125, while the foreign arrivals had fallen off from 595 to 438, showing a decrease of more than twenty-five per cent. in the number of foreign arrivals, and an increase of more than seven hundred per cent. in the arrivals from coastwise. This coastwise trade moves on a line from north to south, and the current is fed by tributaries falling into it from the west. This is the outline of one entire system, embracing all that portion of the United States bordering on the Atlantic Ocean, and when considered with reference to the country east of the Allegheny range, is in conformity with the natural laws which were designed to govern the commerce of the great natural divisions of the earth. But the extension of this system so as to embrace the Valley of the Mississippi, would violate these natural laws, and involve the people of the west in the absurdity of blindly overlooking their own natural channel of commerce, and fasten upon them the original system which was induced by the necessity arising from the "emigrating state" of society, and thus perpetuate the practice of sending our provisions to the Atlantic coast, to feed the operatives employed in manufacturing cotton, wool, and other raw materials of the west, to be returned here for consumption. We should call in question the intelligence and common sense of the people of the west, could we suppose that such a state of things could long exist. The physical geography of the United States indicates two great systems of commerce, in themselves separate and distinct. The one, such as we have described as existing east of the Allegheny mountains—the other, in the Valley of the Mississippi. The latter bounded on the north by the lakes, and the waters which flow into Hudson's Bay, on the west by the Rocky Mountains, and on the south by Central America, and the tropical regions of South America, including the West India Islands. For, although our political jurisdiction extends no farther than the Gulf of Mexico, yet the tropical regions lying directly south of this Valley, must necessarily be embraced in our system of commerce, to give it completeness. This outline embraces every climate inhabitable by civilized man, and affords a direct communication between the two extremes of north and south by the Mississippi river, and the Gulf of Mexico.

This river, dividing the Valley in nearly two equal parts, constitutes the great central highway, and will naturally draw to it the commerce from the east and west. This region, capable of producing every plant and fruit that grows out of the earth—abounding with every useful mineral, and inhabited by an intelligent and industrious race, will require but very little foreign trade, compared to the immense amount of the internal commerce of the country. A large portion of the American people seem to be indelibly impressed with the opinion, that the prosperity and happiness of the country can only be promoted by foreign trade, and appear to have no conception of the importance, or the amount of our internal commerce. Nor can they imagine how the wealth of this country can be increased except by bringing it from foreign lands. Acting under such impressions, they have been continually striving, for the last forty years, to increase the foreign commerce; during which time it has been constantly decreasing—not in the aggregate amount, it is true—but rapidly decreasing when compared with the increase of population and production.

From a tabular statement of the imports and exports of the United States, published in the Merchant's Magazine, it appears that the annual average amount of exports for the five years ending with the year 1805, was $91,472,702, and that the annual average amount for the five years ending with the year 1845, was $111,712,373, being an increase of a fraction over twenty per cent. in forty years, while in the same time, our population increased about two hundred and twenty per cent. In the term of five years, ending with the year 1805, the exports amounted to about $15 43 per annum, to each individual, which was reduced in the last term of five years, to about $6 54 per annum; showing a decrease of exports in proportion to the population of more than one-half. And if our exports and population shall each continue to increase at the same rate for the next forty years, the amount of exports per annum, to each individual, will be reduced to about two dollars.

When we reflect that this change has taken place during a period when the manufactures of this country were in their infancy, and when those of Great Britain were limited only by the want of a demand for their fabrics, we must conclude that this falling off in the exports will be accelerated in proportion to the increase of our manufactures, until the mighty influence which foreign commerce has hitherto exerted over the policy and pursuits of this country shall cease to disturb the public mind.

The same laws which tend to lessen the commercial intercourse between the United States and Great Britain, will also tend to separate the commerce of the Atlantic coast from that of the Valley of the Mississippi, and to establish a distinct commercial system in each. And with a reference to this result, the people of the west should project their plans of internal improvement, and establish their commercial and manufacturing towns and cities. The great emporiums of commerce, and the arts, will doubtless be established in the central region: this is the region

of cheap provision, of coal, and of iron; and besides these advantages, the products of the north and of the south can be more conveniently and cheaply distributed from the centre, than from a point near either extreme. Here, likewise, the works of art can be more conveniently distributed, and here a greater number and variety of artists will establish themselves. But in a country so extensive, and abounding with so many resources, many important commercial and manufacturing cities must necessarily grow up in every important division; yet all connected with, and forming part of one great system.

Notwithstanding we have endeavored to show that the prevailing current of commerce naturally proceeds on a line drawn from the equator, in the direction of the poles; yet we are not to conclude that all commerce must cease between the east and the west. Should this be the case, there would remain but little inducement to social intercourse between the inhabitants of the several continents; and hence one of the great agents of civilization and of the propagation of the christian religion, would be wanting. Such a result, however, has been provided against by the economy of Nature. Owing to the variety of temperature in the same degrees of latitude; to the irregular distribution of mineral substances, and to the genius and peculiar adaptation of the people of different countries to particular employments, there will ever remain a sufficient variety of useful commodities to keep up an active commercial intercourse between the people of every country. This branch of commerce, however, includes little that is necessary to human subsistence, or indeed to the more common comforts. But consists principally of the more curious and costly works of art, designed to gratify the taste and to ornament the person; or of the more rare and delicate products of the vegetable kingdom. And these commodities being of great value, in proportion to their bulk and weight, bear transportation to a great distance, and do not demand those extraordinary facilities of transportation which are required for the great mass of necessary commodities. Such is the nature of Asiatic commerce. And if the predictions of an eminent statesman of the present day should be verified, this commerce is destined, in time, to come from the west, instead of from the east, as at present. This would constitute another era in commercial history. But whether it shall come from the west, or from the south, the great emporium of Asiatic commerce for this continent, is doubtless destined to be established in the Valley of the Mississippi, as the point from which it can be most conveniently distributed to the greatest number of consumers.

We have drawn the outlines of a system of commerce naturally growing out of the relative position and physical geography of the Valley of the Mississippi. To such as see no design in the economy of Nature, it may be considered a fancy sketch; but we have a higher object in view than the projection of fanciful theories for amusement.

Believing that a correct knowledge of the laws of Nature and obedience to their direction, constitute the highest degree of human wisdom, we have aimed, in the

present article, to call the attention of our readers to the elementary principles of commerce. It would be as reasonable to expect that one who daily violates the laws of his physical nature could enjoy health and comfort throughout a long life, as that any people could prosper for an indefinite length of time, without observing the natural laws of *exchange*, which are applicable to the physical geography and natural resources of the country which they inhabit. In a great interior region, like the Valley of the Mississippi, the means of subsistence are derived from agriculture almost exclusively—commerce and the mechanic arts being its agents. The farmer may toil with assiduity—he may be profoundly learned in geology, chemistry and botany, and skilful in the application of these sciences to the culture of plants—he may be temperate in his living, and frugal in all that relates to his own affairs—yet, if these, his agents, should conduct his *exchanges* in a manner calculated to consume or waste one-half the products of his labor, he could not prosper. Therefore, a knowledge of the true nature of commerce is of the highest importance to the agriculturist, and of all classes of the community, he is most interested in giving it a wise direction.

ART. II.—LABOR AND SKILL.

THE first, and, as is supposed, the strongest objection made to the present commencement of manufactories in the west, is the scarcity and high prices of labor. In view of the millions of acres we have untilled, labor is indeed scarce — but in view of the price obtained for our agricultural surplus products, labor is abundant.

The *money price* of mechanical labor is now actually less in the settled and healthy sections of the west than in New England; the average of wages in all employments and positions is certainly not more than ten per cent. higher. The day laborer in Boston gets one dollar—here, seventy-five cents;—farm hands here, eight dollars to sixteen dollars per month: there fifteen dollars to twenty-five dollars. But this money, thus paid, is the measure of *two values* — first, of wages; and second, of what it purchases for the laborer. In this view, labor is cheaper here than in any country where the bread fruit and plantain do not grow. He who labors for pay, looks at the result of receipts and expenditures of the year, or of life. He can live here equally well at one-third less than in New England and at one-half of what he could in England. He can therefore work here from thirty-three to fifty per cent. less than in the two great manufacturing countries of the world. If we give the same wages, the laborer can lay up from thirty-three to fifty per cent. more here than in those countries; and if he buys land with his earnings, he gets ten, or fifty, or one hundred times as many acres here as he could get there.

All this, says the objector, is very plain; but we have not enough artisans here for the new employment, and if you call them from abroad will they come? The answer is in the fact that whenever and wherever we have furnished profitable and certain employment in the west, the call for labor has been promptly supplied. The operatives in cotton mills have not come, because we have built no mills for them — capital has not come from New England for investment in cotton mills, because it has yielded so large an investment at home; and it has not come from England, because of the distance and the absence of direct communication between the two points and the ignorance on the part of the English manufacturer of our advantages.

We are to look first for superintendents and overseers among our best men. As we can afford to pay very high prices, it is not doubted that the men can be had, and we cannot admit that the Anglo-Saxon here has not as much enterprise and intellect as in the east or in England. The salary of a superintendent of a Lowell corporation ranges from $2,000 to $6,000 per annum, and this commands the highest grade of talent in New England. It takes the lawyer from his practice and the judge from the bench. The average salaries of the Governors of the New England States is $1,208 per annum, and of Judges of the Supreme Courts is $1,415 per annum. $2,000 here is equal to $3,000 there. Will not this price command the same talent here? if not, we have the surplus fund of savings in transportation so to increase the amount until we can draw the Lowell superintendent from the Lowell mill.

For ordinary operatives we have three sources of supply:

First — *domestic*. In the opinion of some fifty manufacturers of whom I have sought information, there will not be the slightest difficulty in obtaining male operatives at home and at as low a rate of wages as that paid in New England, and as little difficulty in obtaining females, if the proper system is adopted. One of the oldest and most successful manufacturers in the interior of Kentucky, says that he has no difficulty in obtaining any number desired for his cotton mill and could increase this number to a great extent. At Cincinnati the supply is greater than the demand, and, at the largest cotton mill there, applications for employment are only received on Monday morning. In Louisville, our clothing merchants, printers, book-binders, paper makers, &c., hire as cheaply as in Boston; and those who have the best means of forming an opinion on the subject, and without an exception, say that the supply of such labor will be greater than the demand.

It may be necessary to state to those who have never seen or read the details of a cotton mill, that it does not require as long an apprenticeship at the spindle or power loom as in most employments; from thirty to sixty days is long enough to give both theory and practice. The average period of residence of the female operatives at the New England manufacturing towns, is only about four years; yet there is more and better work actually done in the same time by these operatives, than is obtained from any operatives in the same employment in the world.

The next source of supply is from the east, and particularly from New England.

Last year Gen. James built in Pittsburg the most complete cotton mill, as is said, in the United States. He furnished not only the machinery, but all the leading operatives from New England. The mill and the operatives are said to work to admiration. This season, as I was recently informed, a large cotton-yarn mill near Cincinnati is to be filled with looms, and the operatives have been engaged at Petersburg, Va.

Although in New England, and perhaps in the manufacturing district of Virginia, such labor is in great demand, and sometimes so difficult to be supplied that emigrants are sought for; yet there is not the slightest difficulty in bringing it here.

Twenty years ago I came from the centre of the cotton manufacturing district of New England, and since have had every means of knowing the feelings of every class of persons there engaged in manufacturing, and I say with knowledge and with confidence, that, were I to go there now and advertise in the newspapers, or even put placards on the guide posts at the road crossings, that I was authorized by responsible corporations, who had made and would conduct cotton mills on the Lowell system, to contract for the immediate employment of male and female operatives for those mills, and at the same wages paid at Lowell, and that the place of employment was at an healthy position on the *free* bank of La Belle Riviere, for every hundred desired there would be a thousand applications.

The father would come because he could exchange his few paternal acres for broad fields in the west; the son would come to a country offering greater freedom of action and a wider scope to his ambitious plans; and the daughter would come from the novelty of change, and because, of the female sex in New England—the supply is greater than the demand.

Is it supposed that New England has sent abroad all her sons and daughters that she can spare, or that have the energy to leave a barren soil and rigorous climate? Offer to her manufacturing class certain and profitable employment and in favorable positions, and the grass would soon grow in her manufacturing towns; and this labor could be had immediately, for the east has, with the most commendable liberality, made easy and cheap the facilities of emigration to us.

The next source of supply is from Europe, and particularly from the manufacturing districts of England. To show that I do not merely rely on conjecture and general reasoning, and at the risk of being tedious, I bring the facts from the best English authority known.

In 1840, a select committee, of which Mr. Hume was chairman, was raised in the House of Commons, to take into consideration the general condition of the manufacturing interests of Great Britain and the policy of modifying its system of import duties. A mass of testimony was given to this committee by the officers of the most important boards of trade, and chambers of commerce, and by

the leading manufacturers. Although neither the committee nor the witnesses stated, in direct terms, that the manufacturing prosperity of England was on the wane, and that she could not, besides paying the cost of transportation, compete with the cheap food and natural advantages of many other countries, (the United States for instance,) which had been her best customers, it is quite apparent that such were their impressions, and that they were only deterred from stating the truth boldly by the fear of giving encouragement to competition abroad. Let the reader judge from the following extracts:

"Your committee gather from the evidence that has been laid before them, that while the prosperity of our own manufactures is not to be traced to benefits derived from the exclusion of foreign rival manufactures, so neither is the competition of continental manufactures to be traced to a protective system. They are told that the most vigorous and successful of the manufactures on the continent have grown, not out of peculiar favor shown to them by legislation, *but from those natural and spontaneous advantages which are associated with labor and capital in certain localities, and which cannot be transferred elsewhere at the mandate of the legislature, or at the will of the manufacturer.* Your committee see reason to believe, that the most prosperous fabrics are those which flourish without the aid of special favors."

That is, when these fabrics are made where the "natural and spontaneous advantages" exist; where, (as in this valley,) God has given all the "special favors" that the manufacturer needs.

"With reference to the influence of the protective system upon wages, and on the condition of the laborer, your committee have to observe that, as the pressure of foreign competition is heaviest on those articles in the production of which the rate of wages is lowest, so it is obvious, in a country exporting as much as England does, that other advantages may more than compensate for an *apparent* advantage in the money price of labor. The countries in which the rate of wages is lowest, are not always those which manufacture most successfully."

For illustration: When cotton is at eight cents per pound, in New Orleans, the difference between its cost to the Louisville and the Manchester manufacturer, for a mill of 10,000 spindles, would be about $25,960 per annum. At our rate of wages, about $25,600 would be paid yearly for labor in the mill. We, therefore, can pay the laborer double price, and be on an equality, if we had no other advantage.

Impost duties were higher in England than in France, yet the Spitalfields weaver had to yield to the weaver of Lyons, because food was cheaper at Lyons than at Spitalfields.

Egypt grows cotton, and the Pacha of Egypt undertook to manufacture it largely; he selected the best cotton and paid his own price for it; he imported the best machinery and the most skilful managers; he gathered the strongest and most active of his Fellahs and Arabs, and brought down slaves from Dongola and

Sennaar, fixed their wages at thirty paras (less than four cents,) a day, and compelled them to labor under the bastinado; but, even in the rudest fabrics, he could not compete at home with the English and Swiss manufacturer; because his laborers were ignorant; because compulsion could not beget ambition to excel; and because rewards, (had they been offered,) which could not be safely invested, and which could be taken away by the same hand that gave, were not inducements sufficiently strong to make the indolent active or to fit the unintelligent for employments which require mental energy and mechanical care.

"And your committee are persuaded that the best service that could be rendered to the industrious classes of the community, would be to extend the field of labor, and of demand for labor, by an extension of our commerce.

"Your committee further recommend, that, as speedily as possible, the whole system of differential duties and of all restrictions should be reconsidered, and that a change be therein effected in such a manner that existing interests may suffer as little as possible in the transition to a more liberal and equitable state of things * * * the simplifications they recommend would vastly facilitate the transactions of commerce," &c., &c.

That is, to rely as their fathers did, and before their manufacturing age, on "the wooden walls of old England." Nature seems to have made the coasts, harbors, and estuaries of Great Britain for a peculiarly maratime people. Here is her *natural* strength. Her energies were partially turned aside from this interest, for half a century, by the inventions of Arkwright, Newcomen, Watt and others, and from the possession of the cheapest fuel *then* known, by which these inventions could be turned to profit. But it is evident that Mr. Hume and his committee think more of the fisheries and the carrying trade than of cotton cloth as the sources of future support and profit to England.

Evidence.—Extracts from the evidence of Mr. McGregor, one of the secretaries of the Board of Trade; Dr. Bowring; Mr. Hume, of the Board of Customs and Board of Trade; and J. Benj. Smith, President of the Board of Commerce of Manchester, and others:

"The German grazier now exchanges his cattle and his beef for fabrics with the home manufacturer, and the corn dealer and miller provide bread for the manufacturer, and use his goods in return; they produce, in most instances, as cheaply as we do, notwithstanding our skill and cheap coal, because they have abundance to maintain life within themselves. The artisan, in the cotton manufacture, can support himself with equal comfort in Germany at half, and in Westphalia, Bavaria, and Austria at less than half, of what it costs the English artisan."

The Germans and Bavarians come yearly to the west, in thousands, attracted by our cheap lands and cheap living—and we have far cheaper coal than can be found in England.

"*The workman of England has to pay, in one way or another, more than half*

his wages in taxation. A workman in Saxony, who is almost entirely free from tax, can live as well upon 5s. a week as an English artisan can live upon 9s. a week."

Yet one of the inducements that the west holds out, and which brings the Saxon emigrant, is light taxes.

"The state of Swiss manufactures is now such that their cotton goods come into competition with ours, and meet us with very great advantages, in our eastern markets: and they are sent to the United States and the Brazils in very large quantities, although the cost of carriage on the cotton must cost them double what the Lancaster and Lancastershire manufacturer pays."

Light taxes and cheap living explain the success of the Swiss manufacturer.

"Of late years there is a tendency for capital and labor to quit this and settle in other countries; in so much so, that all the cotton factories in the neighborhood of Vienna, in consequence of the cheapness of provisions, are in a very fair and prosperous condition; but the directors and foremen of these manufactories are chiefly Englishmen or Scotchmen, from the cotton manufactories of Manchester and Glasgow. We find in France, that the principal foremen at Rouen and in the cotton factories, are from Lancaster; you will find it in Belgium, in Holland, and in the neighborhood of Liege; you find British capital going into France, Belgium and Germany, to a very great amount; and this very British capital employed there producing manufactures which meet us in the markets of the Mediterranean, the United States, Porto Rico, Cuba, South America, and the East Indies."

"Agents are constantly employed in the manufacturing districts, Birmingham, Nottingham, Leeds, Manchester, and Glasgow, in selecting the ablest workmen to go to foreign countries."

"We now cannot export to Switzerland Nos. of yarn under 110; the same process is going on in other countries."

"In Lancaster the wages have not increased with the price of provisions; wages never increase with the price of provisions—they always decline with a rise in the price of provisions, because a high price of food always diminishes the demand for labor, and the rate of wages is determined by the demand for labor."

In England the cotton weaver can do nothing but weave cotton; and his children are taught only to weave cotton. As the manufacturing operative, for several generations, was better paid than the agriculturist, this class has increased so as to outstrip the demand; the producers of food are now fewer than the consumers; the ratio of increase in both is the same, and, in consequence, the price of food must increase, and the means of buying food must decrease.

Here, and under our system, the demand for any particular labor regulates the supply. The four years labor in the mill, instead of incapacitating the operative for other employments, has a very decided tendency to insure him success in other employments. In England, the cotton spinner never expects to be a freeholder, or to marry a freeholder; here the proceeds of labor in the mill are gen-

erally intended for the purchase of land and the necessaries in and about the house of the land owner.

The English rule will continue to obtain there, and, with the modifications suggested, is true here.

"The lower price of provisions induce many people not engaged in manufactures, to settle abroad. There are four or five millions (twenty to thirty millions of dollars,) annually drawn from the incomes of England, spent in France alone, and a great amount in Italy; the city of Naples is almost entirely supported by English expenditure."

Much of this money doubtless goes to support the vices of Paris, but still an enormous amount is paid out by those who seek cheap food abroad.

Now, if the nobleman, with a rent roll of thousands, goes to Italy to save some hundreds, what shall prevent the Manchester weaver from coming here (if he can get the means to remove,) where he can have "a chicken in the pot" every day, instead of only on Christmas and other church festivals? And here, with more and better food, he would do more and better work, and would soon catch the spirit of our own people and fit himself for independence on a farm.

Here are the *facts* which show us what of labor and capital we may expect from abroad, whenever we choose to take the proper means to obtain it. That but little of English capital and of this kind of labor has hitherto come to this valley, is not to be wondered at. I need not quote authorities to show how profoundly ignorant the English generally have been of the west. How few of them who have thought of Kentucky but in connection with the long rifle, and would not rather have trusted themselves to the *crese* of the Malay pirate than to the terrible bowie-knife of Arkansas or Mississippi. Until the last year, when they were so liberally supplied with the corn of Indiana and Illinois, how few of them had ever heard of these States! Within the last twelve months, the lower and middle classes of Europe have acquired more knowledge of us and of our country, than they ever had before. The immense quantities of breadstuffs and all kinds of provisions which we threw on them, on an unexpected demand, astonished them as much as the fall of manna did the Israelites; while the triumphs of our volunteers in Mexico gave them the highest opinion of our population. The contributions we sent them so freely, removed many of their prejudices and disposed them to think kindly of us. The bravery and success of our troops won their admiration. They see that our volunteers can fight as well before stone walls as behind cotton bales. A few years since they would have preferred employment among the French, "their natural enemies," and incurred the necessity of learning a language their class has always despised, to accepting employment here; *now*, thousands of them would gladly come to the land where bread is so cheap and men are so brave.

There is but little of English capital and artisan labor in New England, but the reason is obvious: it will be remembered that, until the last ten years, England

could profitably employ both at home, and since, New England had nearly enough of both; and, besides, the Englishmen and the Scotchmen, when they do go abroad, prefer to go where they can lead, and not where they would be obliged to follow. Here, the position which their capital and skill would take, would not only gratify their pride, but command the desired profits. Our ships built at, and taking their departure from western ports, and laden with western products, will soon be well known at "Lloyd's," and every year will increase the variety and reputation of the products we ship to Liverpool and Glasgow.

The statistics of emigration are even now showing the results of the causes here enumerated.

The efforts of this committee and of the advocates of free trade, and the clamors of the people for the removal of restrictions on imports of food, have vastly changed the policy of England. The taxes on the manufacturer are now lighter and food is cheaper; but, while the church and poor rates are imposed and taxes are actually collected to pay interest on their national debt, it is preposterous to contend that Englishmen can compete with our cheaper food and cheaper power, and nominal taxes, when employed in manufacturing our peculiar staples.

Why is it that the Manchester cotton mill now is not running "full work," when perhaps one-third of the spinners and weavers there are out of employment and would work at the very lowest rates? There is capital enough in England to take all the bonds in the markets of christendom, and, as we have some means of knowing, it asks not the very strongest security. The London Times admits that "the annual saving of the nation over and above its expenses, or in other words, its accretion of capital is not less than fifty millions ($250,000,000) annually; and the London Daily News states that "the banking deposits and lodgments on current account in Great Britain alone, cannot be estimated at less than three hundred millions;" or the enormous sum of one billion five hundred millions dollars!! Now, if the Manchester securities were good—if there was any profit in the Manchester business—we should not have seen the recent long lists of Manchester bankrupts. The iron works of Wales command the funds needed, because they pay good dividends; the railroad calls are paid up, when good dividends are expected; but the cotton dealer and manufacturer, the bankers who dealt with them, and the commission merchants who supplied them with food, were looked on with distrust, and the condition of their assets, as since disclosed, shows that the distrust was well founded.

The London Times further states, "that in the returns for 1847, the imports of flax and hemp, silk, cotton, wool, oil, tallow, &c., show a decline varying from two to thirty per cent."

Now, can a plain man of common sense, and away from the jargon and mystical terms of the writers on finance and political economy, find more than one solution to this state of things? Is not the inference irresistible that, as England has abundance of money and more than an abundance of labor, the cotton and the

hemp would be imported and worked up in increased quantities, if there was profit in the manufacture? The high rate of interest and the rail-road mania can be satisfactorily explained by the fact well known to every man of reflection—that speculations are often rife and that interest on money is always high in a state of transition from one great employment of labor or capital to another.

With such a state of facts, can any one doubt but that we can hire cheap in this foreign market whatever supply of cotton manufacturing labor we desire, from the superintendent and chemist down to the fireman and errand boy, and that we can obtain English capital whenever we show the field for its profitable employment?

The third requisite is—

Reputation or good will, and a condition of society and laws adapted to a manufacturing district.

In other countries the "good will" of a position is often of more value than the capital invested, and reputation of a particular article has frequently outlived for years its intrinsic worth. But, in this country, where so many changes are constantly occurring, that "good will" is rarely set down as part of one's assets, and reputation seldom passes a single generation, and neither has as much influence in fixing the price of cotton goods, bar iron, or common jeans, as of Rodgers' knives or Collins' axes. Whatever of either our western manufacturer deserves and desires to have, can be obtained by the appropriation of a small part of his savings for the use of your advertising columns.

It is admitted that no manufactory can succeed except under the protection of good laws, well administered, and with the influence of a controlling class of society favorable to such pursuits.

There are two kinds of manufacturing employments, and each requires a different position.

Of the population of London, Paris, and New York, perhaps a large majority are really manufacturers, for the jeweller, engraver, shoemaker, milliner, &c., &c., are really as much manufacturers as the weavers of cotton. This class requires and obtains a support from the classes of society who mainly distribute unproductive capital, and congregate in large commercial or fashionable cities. Many also can only find employment of really productive capital in such cities where there is an endless division and sub-division of labor, and where sales are made to order; such, for instance, as the optician, the mathematical instrument maker, &c. These classes need be under no particular discipline. They can choose their own hours for, and places of labor, and, as they work generally for money, they require no special protection from law.

Quite otherwise is it with what we usually term the manufacturing class, those who carry on, or work in, large establishments which require heavy capital, both fixed and active, and where the labor of each operative in each establishment is dependent, on, and is in immediate combination with, the labor of others.

In all such establishments it is generally the fractions of savings in each department that produce dividends or profits. To make these savings, the *human* machinery in the mill should run as smoothly and with almost as little interruption as the iron.

It is mainly to the perfect organization and *esprit de corps* of the overseers and operatives in their manufacturing towns, that the New England manufacturer owes his remarkable success. This cannot be had in places where other interests preponderate.

Manual labor, to be profitable, must be respectable, and even fashionable. The overseer of a cotton, or any other mill is not contented unless his rank in society is as high as that of his neighbor in any other employment. The factory girl works cheerfully and steadily where all her associates have the same hours of labor — the same amusements — the same objects of thought — who live in the same manner, and under the same general rules. Here the necessary restraints are not irksome, because they bear on all alike. To those who have ever been at Lowell and seen the practical workings of a perfectly organized manufacturing society, I refer for the correctness of these positions.

If we adopt the same system, our manufacturing towns or cities will be peculiarly such, and there will be of necessity the condition of society required, and this society will make the code of city polity best adapted to its wants.

So far as general laws are concerned, it will hardly be doubted but that the laws of Kentucky and Indiana are as favorable to manufactures as those of Massachusetts. The Legislatures of these States have always been ready to grant charters, and to pass any law required for the encouragement and protection of such interests; Indiana has now *the very same general manufacturing law* as that which the Massachusetts manufacturer has been so profitably working under for the last sixteen years.

The administration and execution of the law will depend on the character of each district.

As I firmly believe that the Lowell system is the only one which should be encouraged — I had almost said tolerated — in this country, as it is the only one which, while it will ensure large profits to the capitalists and high wages to the operative, is entirely congenial to the spirit of our institutions, and will not bring upon us and entail upon our posterity the thousand political, social, and moral evils, which other systems in other countries have engendered, and as I cannot so well describe what its details are as others have already done, I take the following extracts from a remarkably well written book, prepared with great care by the Rev. Mr. Miles, entitled "Lowell as it was, and is."

**Extracts from "Lowell as it was, and as it is," by Rev. Henry A. Miles: published in 1845.*

A LOWELL CORPORATION.—On the banks of the river, or of a canal, stands a row of mills, numbering, on different corporations, from two to five. A few rods from these, are long blocks of brick boarding houses, containing a sufficient number of tenements to accommodate the most of the operatives employed by the corporation. Between the boarding houses and the mills is a line of a one story brick building, containing the counting room, superintendent's room, clerks and store rooms. The mill yard is so surrounded by enclosures, that the only access is through the counting room, in full view of those whose business it is to see that no improper persons intrude themselves upon the premises.

Thus, the superintendent, from his room, has the whole of the corporation under his eye. On the one side are the boarding houses, all of which are under his care, and are rented only to known and approved tenants; on the other side are the mills, in each room of which he has stationed some carefully selected overseer, who is held responsible for the work, good order, and proper management of his room. Within the yard, also, are repair shops, each department of which, whether of iron, leather or wood, has its head overseer. There is a superintendent of the yard, who, with a number of men under his care, has charge of all the out-door work of the establishment. There is a head watchman, having oversight of the night watch, who are required to pass through every room in the mills a prescribed number of times every night.

This, then, is the little world over which the superintendent presides. Assisted by his clerk, who keeps the necessary records—by the paymaster, who, receiving his funds from the treasurer of the corporation, disburses their wages to the operatives, and not forgetting even the "runner," as he is called, who does the errands of the office, the superintendent's mind regulates all; his character inspires all; his plans, matured and decided by the directors of the company, who visit him every week, control all. He presides over one of the most perfect systems of sub-divided and yet well-defined responsibility. Of course, every thing depends upon the kind of man who fills such a post as this. No pecuniary considerations have ever stood in the way of the appointment, by the corporations, of the best men who could be found. To their remarkable and universally acknowledged success in this respect—to their selection of individuals highly distinguished both for their general force of character, and for their integrity, conscientiousness, and magnanimity, is Lowell chiefly indebted, both for the profitableness of her operations, and the character which she has sustained.

WAGES.—Precise statements will hereafter be given of the average pay of male and female hands. Only some general views of this subject will now be offered. Operatives entering the mill, at once receive pay. In other arts they are obliged

***In several of the foregoing articles, reference has been made to the Lowell system. These extracts, from the very clever book of Mr. Miles, show what that system is, how it works, and why it works well.**

to go through some expensive process of learning. The young woman from the country, employed at first as a spare hand, and a pupil to the business, receives fifty-five cents per week, besides her board. Thus the companies educate nearly all their hands, and as these hands are entirely changed every few years, they have at all times thousands in their pay as mere learners. The female operative will, in a few months earn four and six pence, one dollar, one dollar and a half, per week, according to her dexterity and diligence. While the average pay of all female operatives is, at the present time, about one dollar and ninety-three cents per week, besides board, instances are not uncommon of their earning three and four dollars per week.

ART. III.—THE DISCOVERY, THE FIRST SETTLEMENTS, AND THE FIRST LAWS OF THE MISSISSIPPI VALLEY.

BY EVANS CASSELBERRY, ESQ., A MEMBER OF THE ST. LOUIS BAR.*

De Soto, the Spanish Governor of Cuba, crossed over to Florida with a small army for the purpose of making discoveries, and of searching for gold. He proceeded to where Mobile now stands, and thence a northwest direction, and on the 25th of April, 1541, reached the *Mississippi river!* twenty or thirty miles below the mouth of the Arkansas; and from this circumstance immortalized his name by being the first discoverer of this great river. (*a.*) He crossed this river, and went up its west bank to a place near Little Prairie, not far from where New Madrid now stands. From this place he sent some of his company to examine the regions to the north, who, it would seem, wandered to the *Missouri river*, and then returned. De Soto then turned northwest, and went more than two hundred miles, and then went southward, crossing White River, Arkansas, and several smaller streams, and finally returned to the Mississippi again, some distance below where Natchez now stands, and there died. After his death, his company, under Moscaso, who succeeded De Soto in command, went a southwest direction to Nachitoches, an Indian town on Red River; and again returned to the Mississippi, and constructed small vessels, and descended this river to the Gulf of Mexico, in July, 1543—being the first discoverers of the *mouth* of the Mississippi.

That part of the Mississippi forming the eastern boundary of the State of Missouri, was not discovered until long after the expedition of De Soto. It was re-

* Mr. Casselberry compiled a work, containing so much of the Spanish laws, and the laws of Congress, as relate to land titles in Missouri. Not being able to bear the expense of publishing the work, he applied to several gentlemen for assistance, but without success. He then applied to the Legislature of Missouri, at the last session, and the proposition to grant him the necessary assistance was lost by only *one* vote. We have been permitted to copy the above article from one of the chapters of his unpublished work, which will be found very interesting to the general reader. It is predicated on evidence obtained from the most approved source.

(*a.*) 1 vol. Bancroft's History, page 41 to 59; Perkins' Western Annals.

served by Providence to be accomplished by Joliet, of Quebec, of whom there is no record, but of this one excursion, that gives him immortality; and by Marquette, who, after years of pious assiduity among the savages in the vicinity of Lake Michigan, entered, with equal humility, upon a career which exposed his life to perpetual danger, and, by its results, affected the destiny of nations. They were both Frenchmen, and acting for their country. They went from Lake Michigan up Fox river, and then down the Wisconsin, and on the 17th of June, 1673, discovered the *Mississippi!* at the mouth of the Wisconsin, and about the first of July, discovered the *mouth* of the Missouri, and continued down the Mississippi some distance below the mouth of the Arkansas, and then returned and went up the Illinois river, and discovered all that country in July, 1674. (*b.*) Between the years 1679 and 1681, La Salle and Hennepin, made many other discoveries of countries and rivers, in the Mississippi Valley; and La Salle and his company, in the year 1682, descended the Mississippi to the sea, and claimed the territory for France, and gave it the name of *Louisiana*. (*c.*) France, some time after, took possession of the country and began its settlement. All that part of the country which includes the present State of Missouri, and probably some part of Arkansas, was called by the French and Spanish in their legal proceedings, the establishment or country of Illinois; and sometimes, Western Illinois, in the province of Louisiana, which may be seen stated in the old land titles at St. Louis; but in popular language it was usually called "Upper Louisiana."

The first *settlement* made in this great Valley of the Mississippi, was by the French, at Kaskaskia, about the year 1684. (*d.*) They, about the year 1699, settled Cahokia; and they, also, settled Natchez in 1700; New Orleans in 1718; Vincennes in 1735; Ste. Genevieve about the year 1755; St. Louis, February 15th, 1764; and many other places were soon after settled by them in rapid succession.

On the 14th of September, 1712, thirty years after the country had been taken possession of by La Salle, the French King granted to Sieur Antoine Crozat, the *government* of this country, naming it Louisiana, with certain exclusive pecuniary privileges to Crozat, as an inducement for him to undertake the enterprise of settling it. This is the first *government* that was ever established by the Europeans in the Mississippi Valley. France had thus long postponed the matter in consequence of the wars in which she was continually involved in those times. (*e.*) In this grant of the French King, the *laws, usages and customs!* of Paris were introduced into Louisiana in express terms. These were also the first *laws* of civilized society that were ever in existence between the Gulf of Mexico and the Falls of St. Anthony. These laws, usages and customs were principally copied from the Roman civil law.

(*b.*) 3 vol. Bancroft's History, 157; Perkins' Western Annals.
(*c.*) 3 vol. Bancroft's History, 168; Perkins' Western Annals.
(*d.*) 3 vol. Bancroft's History, 195; Perkins' Western Annals.
(*e.*) 2 vol. White's Rec., 188.

Crozat began small settlements on Red River, Alabama, Coosa, and Tallapoosa, but the expensive wars with the Indians, and other difficulties, induced him to surrender his charter on the 23d of August, 1717.

On the 6th of September 1717, the lands and government of Louisiana were granted by the French King to a corporation called the "*Western Company.*" This Company surrendered their charter, and undisposed-of lands to the French King on the 24th of January, 1731. They only granted one tract of land in Missouri, that we have been able to find. (*f.*)

After the surrender of the charter of the Western Company, Louisiana was governed by officers appointed by the King of France, and their lieutenants, deputies, and sub-delegates, and other inferior officers, during the remainder of the time the French held the country.

As there are no land titles in Missouri, that originated during the time the French held the country, nor during the time the French laws, usages, and customs were in force, we do not deem it necessary to say any thing further about the laws, powers, jurisdictions, and proceedings of the French government, except that the laws, customs, and usages of Paris, adopted during the administration of Crozat, and the ordinances of the kingdom, were observed in Louisiana while it remained under the dominion of France, and by them all civil and criminal suits were determined.

This state of things existed until the month of August, 1769, when Count O'Reilly took possession of the country, in the name of the King of Spain, in virtue of the treaty of cession, which France had made to that power. It is well known, that this treaty, though concluded and signed on the 3d of November, 1762, was not made public before the 23d of Apirl, 1764; and that Spain did not take actual possession of the country before the year of 1769, when Count O'Reilly arrived, vested with extraordinary powers, and at the head of three thousand regular troops. The disaffection which the inhabitants of the country manifested when they heard of the treaty of cession, and that they were to pass under a foreign government; and the opposition which they intended to make, as it was supposed, to the landing of the Spanish troops when they arrived at the mouth of the Mississippi, gave rise to excessively rigorous measures against them, on the part of O'Reilly; one of which was to cause to be arrested, twelve of the most respectable citizens of New Orleans, six of whom paid with their lives, for the affection which they had shown for their mother country, while two others were thrown into dungeons at Havana. It was under these circumstances that O'Reilly issued a proclamation, changing the form of the government of Louisiana, abolishing the authority of the French laws, and substituting those of Spain in their stead.

These proceedings of O'Reilly, (in abolishing the laws, usages, and customs of

(*f.*) Renaut's claim at the mouth of Big River, on the Merrimack. See vol. 2, White's Rec., p. 415.

the French, and substituting those of Spain in their stead,) were fully recognised, and confirmed, by the Spanish government at home, on the 24th of March, 1770; (*g*) and thereby making the proceeding valid, and binding from the beginning; but on examining the commission of O'Reilly, we find that he had sufficient power without any subsequent recognition or confirmation being necessary.

The proclamation of O'Reilly was accompanied by an ordinance establishing the several branches of the new government of Louisiana, and defining their respective powers, and appears to have been published on the 26th of November, 1769. From the time of its promulgation until now, the French laws ceased to have any authority in this country, (*h*) and all controversies were tried and decided conformably to the Spanish laws, by a tribunal, of which the governor was the supreme judge in Lower Louisiana; and the lieutenant governor, subject to the control of the governor, was the supreme judge in Upper Louisiana, though they were bound to take the advice of a lawyer appointed and commissioned to that effect, by the King of Spain, and called the Auditor of War; and the commandants of the several posts were the inferior tribunals. From all the judgments of the lieutenant governor's tribunal, there was an appeal to the governor, though such an appeal was seldom, if ever, resorted to; and from all the judgments of the governor's tribunal, there was an appeal to the Royal Audience, sitting at Puerto Principe, in the Island of Cuba, and presided over by the captain general of that Island; and from the commandants of the posts in Upper Louisiana there was also an appeal to the lieutenant governor.

The return of Louisiana under the dominion of France, and its transfer to the United States, did not, for a moment weaken the Spanish laws in the province. The French, during the short continuation of their power, from the 30th of November to the 20th of December, 1803, made no alteration in the jurisprudence of the country. (*i*.)

According to the law of nations, and the treaty between the United States and France, of April 30th, 1803, and the acts of Congress of March 26th, 1804, March 3d, 1805 and June 4th, 1812, the Spanish laws in Upper Louisiana were expressly continued in full force, until altered or repealed by the proper legislative authority. There was no legislation on this subject, until the 19th of January, 1816, when the territorial legislature of Missouri declared that the common law of England, and the statutes of the British Parliament, made prior to the fourth year of James the First, to supply its defects, should be the rule of decision, so far as the same were not repugnant to, or inconsistent with, the *laws* (omitting to say *statute* laws) of the territory. (*j*.) The Supreme Court of Mis-

(*g*.) Vol. 2 White's Rec., 450, 467.

(*h*.) See preface to Morean and Carleton's Partidas, vol. 1, p. 21; New Orleans vs. U. S., 10 Peters' Rep., 662; argument of Mr. Geyer in the case of Strother vs. Lucas, 12 Peters' Rep., 782; Martin's His. of Lou.; 3 Martin's Lou. Rep., 120.

(*i*.) Morean and Carleton's Partidas, vol. 1, p. 21, preface; Martin's His. of Lou.

(*j*.) Ter. Laws of Mo., vol. 1, p. 436.

souri, in the case of Lindell vs. McNair, 4 Missouri Reports, page 380, and in the case of Picotte and others vs. Cooley and others, 10 Mo. Rep., page 312, seems to have decided, that the act of the territorial legislature, of the 19th of January, 1816, did not abolish the Spanish laws, but only introduced the common law, so far as was necessary to supply the *deficiencies* of the Spanish law; and the Missouri District Court of the United States, in the case of Smith vs. Fitzsimmons and Rogers, made a similar decision (*k.*) These decisions seem to correspond with the opinions of all the older lawyers, who were cotemporary with those times, and are familiar with the manner in which the people then understood the matter, which makes their opinions peculiarly valuable. The Spanish laws consist of positive codes, expressly prepared by the proper authority of the government of Spain, and promulgated by ordinances in a similar manner to the revised statutes of Missouri, which makes those codes come as strictly within the definition of the term *laws*, as legislative enactments do; because, the term *ordinance*, and the term *statute*, when applied to legal matters, are synonymous in meaning, and both are included alike in the term *law*. Now, if the Spanish laws had consisted of the customs and usages of the nation, collected together in large volumes by learned writers, without authority, like the writings of Coke, Blackstone and Bacon, the customs so collected, although having the force of laws, might not be construed to come within the popular meaning of the term *laws*, as used by the territorial legislature in 1816; but the Spanish codes are in effect positive legislative ordinances, and therefore, can not by any plausible process of reasoning, be excluded from coming within the term *laws*, as used in the act of 1816. We are, therefore, of the opinion that the above decisions and opinions on this subject are strictly correct. And as there was no more legislation on this subject, until the act of the legislature of February the 12th, 1825, which went into operation on the 4th of July following, we may safely come to the conclusion, that the main body of the Spanish law continued in full force, until the 4th of July, 1825, when the revised statutes of that year went into operation, which made the English common law the rule of decision, except so far as the same was inconsistent with the *statute* laws of the State. The legislature seems to have been aware of the great inconvenience to the people, of suddenly abolishing one system of laws, and of substituting another widely different, in its stead, and so worded the act of 1816, as to create a gradual introduction of the English common law, which nicely prepared the way for the entire abolition of the Spanish law in 1825, without any public inconvenience. In this, they acted with that abundance of good sense, which was so characteristic of the public men of Missouri in those times. Then, any one will on a moment's reflection perceive, that at least one-fourth in value, if not one-third of the real estate in Missouri is affected by the Spanish laws: because, the titles to at least one-fourth in value, if not more, of

(*k.*) See the argument of Mr. Geyer, 12 Peters 782, in the case of Strother vs Lucas.

the real estate originated during the existence of these laws. Therefore, it is highly necessary for the practicing lawyer, and the judge, to obtain at least a substantial general knowledge of the Spanish laws, in order to conduct land suits properly, and to do justice to the parties in ascertaining their rights.

The public records of those times show, that no lands were granted, conceded, distributed or otherwise disposed of in Missouri until the year 1766; and consequently, there are no land titles in the State, that originated before that time. Although Ste. Genevieve and St. Louis were both settled, as we have shown, yet until the year 1766, no one pretended to own any real property.

From 1766 to 1770, the lands in this State were granted by Louis St. Ange de Belle Rive, a French Commandant. All these grants have been expressly decided to be void: (*l*) because, the French authority ceased on the publication of the treaty of 1762, and St. Ange, during this period, had no authority whatever from the Spanish government. All these grants were, however, overhauled, and surveyed, and on the 23d of May, 1772, recognised by the regular, and proper agent of Spain. (*m*) Then, in a legal point of view, no land titles in this State can be dated any further back than 1772; because, they cannot be called *titles* at all until recognised by the proper authority.

We have now shown, that the French laws were abolished on the 26th of November, 1769, and that no land titles were granted by the *proper* authority until May 23d, 1772, which sufficiently proves, that no land titles originated during the existence of the French laws: therefore, a knowledge of the French laws, is not necessary, in order to understand the old land titles in Missouri.

(*l.*) See all about this matter in Wright's admr. vs. Thomas, 4 Mo. Rep. 577; 5 Martin's Rep. 35; 6 Peters 747, 763, 727; 4 Martin's Rep. 213; 9 Peters 742, 133, 137.
(*m.*) Strother vs. Lucas 12 Peters 410; 4 Mo. Rep. 577.

ART. IV.—CLAYS AND MINERALS OF MISSOURI.

We are much pleased to find that our call for facts, in relation to the varied resources of the country, has been noticed by the readers of the Western Journal, but we are more gratified still, that some of them are begining to look around for the purpose of collecting and publishing many valuable facts, which have long remained unknown to the public, at least beyond their immediate neighborhood.

If the people of Missouri desire to attract capital and skill to this State, they must show how the one can be advantageously invested, and the other profitably employed. There would be sufficient capital and enterprise found to develop all the resources of the country, if the objects of investment were generally and extensively made known; and he may well be considered a benefactor, who by making known the natural wealth and advantages of the State, shall be instrumental in their development.

There is, perhaps, no article which enters so largely into the consumption of the people of the west, upon which the cost and charges incident to importation are as great as upon pottery and queensware; and there is no other country, perhaps, where the manufacture of these articles would be so completely protected against foreign competition, as it would be here. We consider the kaolin and other plastic clays of Southern Missouri, as constituting one of our important sources of wealth, and feel confident that the time is not far distant when Missouri will supply a large portion of the queensware, and other articles of pottery required, for the consumption of the west; and next to coal and iron, the materials suitable for the manufacture of queensware, china and glass may be considered the most important mineral products of this State.

The following communication from F. Woolford, Esq., of Caledonia, shows that kaolin is abundant, and extensively distributed in Southern Missouri:

Messrs. Editors:—Having noticed your desire to collect facts connected with the mineral resources of the State, I have undertaken to give a description of the kaolin, and the plastic, or pipe clays of Washington and the adjoining counties, so far as they have come within the range of my observation. Among the many locations where these clays are found, I will mention the following:

There is a bed of pipe clay near the Mammoth Lead Mine, on Big River; it is white in appearance, and polishes with the pressure of the fingers; it emits a strong odour when breathed upon, and contains some iron in the form of protoxide, which would render it unfit for the manufacture of a good pottery. Pipe clay has also been discovered in the Richwoods, about ten miles west of the Mammoth Lead Mine; it is a bluish white, less plastic than that just mentioned, polishes with the pressure of the fingers, and emits a very little odour when breathed upon. It becomes very white in the porcelain kiln, and is tolerably well adapted to the manufacture of Liverpool or delf ware. It is, however, subject to the considerable imperfection of *crazing*, a technical term used by potters, which denotes the cracking of the glaze. This renders it unfit for the manufacture of a good substantial article of fine stone ware.

The next location is about nine miles from Caledonia. This is a bluish white clay, and contains a greater number of good qualities than either of those mentioned, and being free from iron, it becomes exceedingly white in the porcelain kiln. It forms a very solid quality of ware, and is capable of being advantageously combined with a greater quantity of silicious earth, or powdered flints, than either of the first mentioned specimens. This is a desirable quality because the greater the portion of silex that is used, the whiter will be the ware. This clay is well adapted to the manufacture of granite or common wares.

I have discovered porcelain clay, or kaolin earth, in three different locations in Washington county; these are all similar in quality, and differ very little in their external appearance. They are very white, and possess very characteristic properties; are friable in the hand, meagre to the touch, and difficult to form into

paste with water. These kaolins contain very little mica; they remain very white, and retain their color unaltered in the greatest heat I could expose them to. On the south side of the Ozark Mountains, there are large deposites of this mineral. It is found there in every state of decomposition, among the felspar rocks, which are the leading rocks of these mountains.

Kaolin clay is found in Ste. Genevieve county, fourteen miles from the Mississippi river and fifty miles below St. Louis. It has a slight yellow color. This kaolin is more unctious to the touch, and more micorus than the clays of Washington county; it remains unaltered in the porcelain kiln, except in color, and becomes very white; it is also adapted to the manutacture of porcelain. In the neighborhood of this kaolin, there are large blocks of graphic granite, and this clay is found in the seams or partings between the rocks. Granite is the leading rock of that country. Near the kaolin are also found large blocks of glassy felspar, which is mostly of a flesh color, but some nearly white. It is well adapted to the manufacture of bodies and glazes of porcelain ware.

I have also recently discovered a kind of mineral which resembles a pot-stone-or meerschaum. Some specimens have been analyzed, and found to contain two parts of very fine silex, and one of alumine, one atom of iron, and a small portion of magnesia. Its external appearance is of a light yellow color; it emits no odour when breathed upon; when immersed in water, it falls down quickly into powder, and becomes a beautiful deep yellow. It stands the heat of the porcelain kiln without any contraction in its bulk, and becomes a beautiful light rose red; but when mixed with twelve per cent. of felspar, it becomes very white and fine grained, and is as hard as the French china, possesses considerable transparency, and admits of a shining glaze. There are large blocks of glassy felspar near Caledonia, of a flesh color and some nearly white; it contains at least from six to eight per cent. of potash, and is well adapted to the manufacture of pottery glazes. Here is also a bluish white flint, nearly pure silex. It is well adapted to the formation of bodies and glazes of pottery. In the vicinity of Caledonia there is a bed of fire clay, well adapted to the manufacture of fire bricks, and the formation of saggers for baking china.

Here are, also large beds of grey marl, but it is impregnated with lime and iron, which renders it unfit for fire bricks, pottery, saggers, &c.

I could also say something about manganese ore, black wad, &c., but as these do not come under the head of clays, I shall desist. F. WOOLFORD.

CALEDONIA, Washington County, March 4, 1848.

ART. V.—MANUFACTURE OF WOOL IN UTICA, NEW YORK.

Every well wisher of his country should read the following interesting article which we find in the Utica Herald. It shows the potency of diversity of employment.—*Eds.*

The census of 1845, revealed to the citizens of Utica the startling and unwelcome fact, that its population had diminished several hundreds within the five preceding years. The real estate holders took alarm from the revelation of a circumstance so prejudicial to their interest, and sat about, immediately to devise a remedy.

But one resource seemed available in this emergency—which was, to convert our city from a commercial to a manufacturing town. The effect of extensive manufacturing establishments, on the trade and general prosperity of communities, had been observed in the rapid rise of easten cities, and nearer home, in the speedy growth of numerous prosperous villages in our own county, whose origin and progress were to be traced directly to the business created by the wants of large manufacturing establishments in their centres.

But how should we build up such concerns in our city? was the great question to be determined. Water power was then regarded as the only propelling force that could be used with profit for the purpose of driving machinery. This our city had not within its command. It could not be obtained without great and almost impracticable cost. The use of steam seemed our only alternative. Few believed that with so expensive a propelling power, the business of manufacturing could be carried on here with advantage; yet a few resolute spirits, in the face of dire croakings from a numerous and influential herd of unbelievers, boldly determined that the experiment should be tested, even though the cost of the predicted failure should fall on themselves alone.

They called a meeting and deputised a committee of their number, to journey to the east and examine the far-famed manufactories of that region, and investigate the powers relatively, of water and steam. The committee most faithfully fulfilled their trust, and in due time laid before their fellow citizens an elaborate and closely reasoned report, fortified by such facts in relation to the subject of their investigation, as could hardly fail to convince every practical mind. The entire feasibility of constructing manufactories on an extensive scale, with steam as the sole propelling force, was made so apparent to the members of the committee while conducting their investigations, that each one offered to contribute heavily of his own means, to the stock of a manufacturing association to be formed on the principles of the report.

Yet still there were many grave doubters, and it was only by the unremitting exertions of several gentlemen whose labors for the good of the city can never be too highly appreciated, that the capital stock was at last filled.

From all but the first few, who opened the list with liberal entries, the subscriptions came sparingly and in driblets. Some real estate holders who had most at stake in the success of the enterprise, to their shame be it said, contributed nothing; and perhaps the amount would never have been raised at all, but for the liberality of the mechanics and small property holders, who risked a large

part of their little savings in the bold venture, and by this means made up the deficiency.

But the capital was, at length, though with great difficulty, all made up, and its expenditure was at once vigorously commenced. In a few months a spot that had, till then, been a vacant, barren and stagnant goose pond, was redeemed from waste, and beautified by the erection thereon of several elegant and costly structures, in which the hum of industry had succeeded to the croaking of the bull-frog, and the scream of the goose, which was once the only music of the place.

The "Utica Steam Woolen Company" had barely commenced operations, before the whole city, lately made up of a population of stubborn doubters, became, as by magic, converts to steam. The enterprise could no longer be regarded as an experiment. A large engine, moving a multitude of complex machines, with as much readiness, apparently, as a man would move a grind-stone, and with no greater cost per day than it required to warm a water mill in winter, was a potent preacher of truth, and made proselytes in places where figures would have failed to awaken conviction.

The experiment had been tried and proved promise of success, to use a hackneyed phrase, vastly beyond the "most sanguine anticipations of its friends."

It then became an easy task to procure investments in manufacturing enterprises with steam as a propelling force. In as many weeks as it took months before to fill up the stock of one company, three additional associations were formed, with an aggregate capital of half a million of dollars, which is now expending in the erection of new establishments.

Nor is this the only benefit that has sprung from the enterprise Mechanism of many kinds, which before was scarcely known in our city, is now carried on largely and successfully in every street. Every branch of manufactures is prosperous, and the only complaint we hear from our citizens is, that they cannot turn off work with sufficient rapidity to fill the demand Enlargement of business is not only talked of by our mechanics and manufacturers, but is carried into effect as fast as time and means will allow.

All this prosperity is the direct and legitimate result of the enterprise of the founders of the steam woolen mill. But for that enterprise, our city would still be taking rapid steps in the backward progression. To them is due the credit of arresting the decay of our beautiful city, and placing it in a position where it bids fair to outstrip its cotemporaries and former rivals.

A few facts and statistics relative to this mill—which is regarded by experienced manufacturers as a "model establishment"—will be interesting in the present connection. We are indebted for them to Thomas Cellins, Esq., the vigilant guardian of the treasure of the Institution, and one of the firmest and earliest friends of manufacturing by steam in Utica.

Utica Steam Woolen Factory.—This company was incorporated in February, 1846, under the general manufacturing law, which has long been in exist-

ence in this State. In the spring of 1847 it commenced manufacturing woolen goods, since which period it has been in regular and successful operation.

The Board of Directors, on the 16th of December last, after a full and satisfactory examination of the concerns of the Company, declared a dividend of ten per cent., payable to the stockholders on the first day of February next—leaving a surplus profit of upwards of twenty-five per cent. on the capital stock paid in, subject to their future action.

The company have erected the following buildings, all of brick, except the basements, which are of lime stone and gneiss rock, viz: Main factory, wool house, dry house, dye house, boiler houses, gas works, work shop and stable.

The main building, or factory, is one hundred and fifty-six feet long, by forty feet wide, and five stories high, including basement and attic. The wool house is ninety feet long, by forty feet wide, and two stories high, besides the basement. The dry house is one hundred feet long by thirty feet wide, and three stories high. The dye house is eighty-eight feet long, by forty in width, and one story high. The work shop and stable is sixty feet long, and thirty feet wide, and two stories high. The boiler house, including gas works, are fifty-five feet long each, thirty-two feet wide, and one story high.

The factory contains nine full setts of machinery, consisting of twenty-seven carding machines, forty-one broad looms, eleven jacks, of two hundred spindles each, eleven gigs, twelve fulling mills, four shearing machines, two brushing machines, one dye beater, two presses, two pickers, two warpers, four spoolers, in addition to the steam engine, boilers and gas works.

The boilers furnish steam sufficient to propel the engine, heat for warming all the buildings, boiling the dyes, drying the wood and cloths, and the necessary heat required in the fulling process of the cloth. They require about two tons of coal per day, the cost of which, at the factory does not exceed four dollars and twenty cents per ton.

The whole cost of the real estate, buildings, machinery and fixtures of the company, as nearly as can be ascertained, is $88,044 60—the amount of capital stock paid in, is $86,400.

The whole of the machinery is now in full operation, and the cloth manufactured daily, exceeds four hundred and fifty yards of finished cloth, and the yearly production of broadcloth will be about 135,000 yards, requiring for the manufacture of the cloth about 338,000 pounds of fleece wool annually.

The quantity of fleece wool for the annual supply appears to be more than is necessarily required. Yet, when taken into view, the process of assorting into numbers, which throws out the coarser qualities, such as are not applicable to manufacture here, reducing the whole quantity, leaving only a sufficient quantity of the higher grades of wool to supply the factory.

ART. VI.—THE OBLIGATION OF CONTRACTS,

OR AN INQUIRY INTO THE NATURE AND DEGREE OF EQUALITY REQUIRED IN CONTRACTS OF MUTUAL INTEREST.

(Continued from page 68.)

THE intelligent reader, no doubt, is informed of the origin and history of what is denominated the *common law*.

Its rules have long predominated in this country, in the construction of agreements, and in enforcing their performance. In some degree, and in certain cases, it is true, the unbending rigor of the common law has been softened by modern judicial interpretation or discretion, and in others by legislative enactment.

In the administration of the common law, in respect to contracts, courts have frequently, (especially within the last century,) exercised the prerogative of harmonizing the common law with the principles of equity. In other words, in cases where it is apparent the rigorous rules of the common law would work injustice if carried out, courts have resorted to equity jurisprudence for rules to prevent injustice.

These suggestions clearly indicate, what is really the fact, that we have two systems of jurisprudence, apparently, if not essentially different in principles, as well as in their practical application—either of which may be available, as circumstances or necessity may require.

This apparent anomally may seem strange to those who have never become acquainted with our system of laws, and their application by our judicial tribunals. That these systems, so essentially different in their origin, and to a great extent in their application, should be allowed to exist at the same time, is no cause of complaint. On the contrary, we have just cause of congratulation, that both systems have so long existed, and been made applicable to the business and practical affairs of life. Indeed, it is within reasonable bounds to say, that these systems, more than any other causes, have contributed to the establishment and maintenance of wise systems of government, and the security of individual rights.

In pursuing our inquiry, it is not our purpose to discard the rules which these systems afford; on the contrary, it is our purpose to ascertain what are, in reality, the elements of the rules applicable to contracts which these systems severally or collectively afford. And so far as they conform to equality and strict morality, it is our purpose to adhere to them; but if, in the sequel, it shall appear that they are incompatible with morality, or countenance inequality, we shall not hesitate to condemn and discard them.

In our judgment, it is quite immaterial by what name a system is known, or whether a people have one or many systems of jurisprudence, if the whole maintains equality, and affords a simple, safe and prompt means of preventing or redressing injustice.

Names and externals, things which do not affect the essence of a system of laws, are, for the most part, mere matters of expediency, and consequently of but

little importance, excepting that in every superstructure, symmetry and beauty are desirable.

It may not be unprofitable for us to trace out the rules applicable to contracts, of each of the systems to which we have referred.

It is regarded as a universal and fundamental rule in the *civil law*, and its derivative systems, that every contract depends wholly upon natural law, and that it is governed entirely by rules deduced from natural law. This, in few words, is the fundamental doctrine of the civil law in respect to contracts. To the careless reader it may seem that we have stated too tersely or too much condensed the doctrine of the civil law, on this subject. But we hazard nothing in saying that we state the doctrine truly. Certain it is, that upon this solid foundation the civilians reared a consistent and beautiful system of jurisprudence, in relation to defects and losses sustained from ignorance of circumstances or facts, *intrinsic* to the subject of sale.

The doctrine of the civil law in effect declares, that the seller of a commodity contracts with the buyer to convey to him the property of the thing sold, and this *property* is regarded as a useful property, within the meaning of the contracting parties. The vendor is regarded as virtually warranting against all defects in the subject of sale; and this the civil law regards as the natural result, from the understanding of the contracting parties, without any express stipulation on the subject. In other words, the civil law teaches, that in all contracts, the observance of that good faith between the parties, which natural justice and conscience would approve, as being of the very essence of the transaction. Hence its leading maxim—"*Bona fides in omnibus contractibus necessaria.*"

One of the most learned commentators upon the civil law,* thus states its doctrines in respect to concealment and reservation in contracts—"In all contracts of mutual interest, good faith not only forbids falsehood, but also all concealment of every thing which he with whom we bargain, has an interest in knowing, in relation to the matter which is the subject of contract. The reason of this is, that justice in contracts consists in equality. Every thing, then, that tends to infringe this equality, is against equity. It is evident that any reservation on the part of one of the contracting parties respecting any thing which the other may have an interest in knowing, violates this equality; for, as soon as one party has a knowledge of the matter superior to that of the other, he has an advantage in forming his bargain. He understands what he is doing better than the other, and, of course, the equality between them is at an end." In applying this doctrine to contracts of sale, it follows that the seller must disclose every circumstance within his knowledge respecting the matter which the buyer has an interest in knowing, and that he sins against that good faith which should reign in his contract, if he conceals any such circumstance.

Here is shown the strict rule of the ancient Roman law, in reference to reser-

*Pothier.

vations or want of *good faith*, respecting extrinsic circumstances, as affecting contracts. Indeed, it seems thus to have been administered with all its rigor, in the tribunals of the Roman Empire. And we find that even to the present time the reason and justice of these rules are strongly asserted and maintained by able writers and learned jurists throughout modern Europe.

The soundness of this doctrine may well be questioned. However plausible it may appear in theory, it seems wholly impracticable in the business concerns of modern life; and if we bestow proper reflection to the subject, we shall readily come to the conclusion, that while it preserves its rank in the theoretical institutes of the law, it has become obsolete as a rule in modern practice.

The doctrine of which we have spoken, is unquestionably hostile to the policy of modern civilized society. A literal compliance with it, and a rigid interference on the part of our judicial tribunals to enforce it, would effectually destroy every stimulus to exertion in commerce and the arts. When we take an enlarged and correct view of the subject, we find that the greatest truths of political economy, are but those of morality, viewed under another aspect—and sound policy is never in collision with sound morality.

It is not reasonable—indeed it cannot be true—that either contracting party is bound in conscience, or even by an overwrought sense of honor, to communicate to the other every circumstance which he has an interest in knowing, respecting the subject of the contract. And we have come to this conclusion without reference to the legal enforcement of contracts under this doctrine of the civil law.

For however well meant the doctrine may be, and however it may have been drawn from just notions of right and wrong—it is evidently far too broad in its terms, and wanting both in precision and truth. Many examples of familiar occurrence could be suggested, if necessary, which would illustrate the unreasonableness of this doctrine and its utter impracticability.

In the ordinary routine of business, it is generally the case that both contracting parties decide correctly as to their own interests; but both may be wrong, or either—and yet in the judgment of all men of common sense, the bargain scrupulously honest.

The notion of giving and receiving mere equivalents, scarcely enters the minds of those who engage in trade from motives of commercial gain. This fact alone goes far to show the fallacy of a doctrine which, whilst it places morality in obvious contradiction to the necessities and the prosperity of civilized society, is so diametrically opposed to the convictions we have of the fairness of the dealings between man and man, as they pass under our observation.

In short, the incongruities and absurdities which are fairly deducible from this doctrine, either as a guide of conscience or as a rule of law—offer the best demonstration of its unsoundness.

For example, to require that a vendor of a chattel should disclose every circumstance within his knowledge, which the vendee has an interest in knowing, and

that he who is silent as to such circumstances, sins against good faith, when applied to *particular cases*, no doubt, in many instances, would be just. But how many cases occur in the ever-varying transactions and business of life, where justice and good faith never call for such disclosures—and where such disclosures would completely destroy that fair superiority which the industrious and intelligent man by his labor or enterprize has fairly earned, over his careless or slothful neighbor.

We now pass to the consideration of a system to which our judicial tribunals are mainly indebted for rules of interpretation and construction in respect to contracts.

The *common law rule*—the antagonist, to some extent, of the doctrine from the consideration of which we have just passed — has been briefly stated in our previous remarks. The rule emanating from this system, is substantially to the effect, that where a bargain is merely that the purchaser shall give a certain price for the property sold, unaccompanied with any stipulation, express or implied, that he is not to have it for less than its value, the knowledge by the vendee of circumstances materially enhancing the value of the thing sold, and the known ignorance of it by the vendor, will not affect the validity of the contract. Practically, it is saying, that if A., knowing that in the property of B. there is some peculiar or intrinsic value, of which B. is wholly ignorant, should enter into a contract for the purchase of such property, without considering or taking into account its peculiar or intrinsic value, the contract would be valid. This would be so because the common law, in effect, declares that from the nature of the contract, A. is not bound to disclose his information in regard to the peculiar value of the property. The stern maxim — "*caveat emptor*"— is proclaimed to the contracting parties.

Upon the buyer is imposed the necessity of strict caution and vigilance, and upon him must fall the loss or disadvantage of every imprudent or unlucky purchase, unless the worth or quality of the commodity is expressly and formally warranted by the vendor—or that he knowingly makes use of some false allegation or act calculated to conceal or deceive.

The only implied obligation that the vendor of a chattel comes under, is, that he has a right to sell, and that his title is good; beyond this, in all ordinary agreements of sale or exchange, the maxim, *caveat emptor*, prevails, as an indication of the stern rule of the common law.

Each party abides by his own sagacity and judgment—no matter how defective the article sold may be, and for which a full market price of a good one may have been paid—no matter how much its value may be inferior to its cost—if no fraud or intentional falsehood has been used or practiced by the vendor, the buyer is without remedy for any loss he may suffer. For, says a learned commentator upon the common law,† "With regard to the goodness of the wares,

† Sir William Blackstone.

the vendor is not bound to answer, unless he expressly warrants them—or unless he knew them to be otherwise, and had used any art to disguise them—or unless they turn out to be different from what he represented to the buyer."

Thus far, our remarks have been mainly directed to the rule of the common law, in respect to the suppression or withholding of facts materially affecting the value of property. In the theory of this system, a distinction is plainly marked between the suppression of *extrinsic* and *intrinsic* circumstances. This distinction, however, seems confined, in some degree, to a class of cases which do not render the distinction inconvenient or odious. In practice, the distinction is scarcely perceptible. It is scarcely necessary, therefore, to introduce the distinction, with any more particularity, into this discussion.

From the rule we have stated, it will be perceived that the vendor is not required to answer for the defects of his unwarranted wares; and though it cannot be said that he is thus protected by the positive provisions of law, yet he is effectually so by its mode of administration. Glaring inequalities, growing out of the rule we have stated, not unfrequently occur, which cannot fail deeply to impress every reflecting mind. The vendor of a chattel, as we have seen, is protected from answering for the defects of his wares; yet, under the same law, he who undertakes to *make the same wares*, is required to produce the *very* article that he contracted to produce—*i. e.*, he is bound to produce an article that shall be fit for the purpose for which it is designed; otherwise he cannot demand compensation for his wares.

The artizan who makes an article, but which proves to be inferior in quality to the one he contracted to make, can not claim the compensation agreed upon; because, says the *common law, there has been no beneficial service under the agreement—therefore there should be no pay.* In other words, when a person is employed to do or perform any particular work or duty for hire, the law implies that he will use all proper diligence and skill in the performance thereof. Thus we see that, although there is no implied warranty resting on the seller, as to the quality of the finished article, there is one resting upon him who makes it.

This rule in respect to builders, artizans, &c., cannot be said to grow out of any necessity of the case; for it is possible for an employer, in all cases, to superintend the work as it progresses, and object to its defects; therefore, it cannot be said that he is obliged to rely upon the undertaker. For example: A. undertakes to construct a carriage for B., but executes his agreement defectively, either in respect to materials or workmanship. B. has the opportunity to object to the defects as the work progresses—still, if he does not, A. cannot claim any thing for his work, because he *impliedly* engaged to construct a good carriage. The consequences, then, of the carelessness or ignorance of A., falls on himself.

But if the same defective carriage, after its completion, is sold by A. to B., without an express warranty as to its quality, the latter takes it on his own judg-

ment; and if he pays too much, or if the carriage does not answer his expectations or purposes, he is without remedy.

While many of the rules of the common law, in respect to contracts, apparently seem arbitrary and severe, we may refer to another species of agreements to show the wisdom as well as the equity upon which the law is founded. In contracts of insurance, each party is bound under the law, not simply to strict integrity, but to unreserved frankness and candor. The rule is well settled in all insurances, that "*it is essential to the contract that the insured should represent the true state and condition of the subject insured to the best of his knowledge.*"

On such representation the underwriters engage. The insured is bound to tell the underwriters the *truth* in respect to every material fact connected with the subject insured; and every fact, within his knowledge, regarding which ignorance or mistake might possibly induce the underwriter to compute his risk upon an incorrect basis, or to enter into the contract on less favorable terms than he would otherwise have done, is regarded as a *material fact:* and any suppression or misrepresentation avoids the contract. And this rule is equally applicable to intrinsic and extrinsic circumstances or facts. The same degree of frankness is required of the underwriter. In this class of contracts the parties meet on equal grounds The judgment of both acts on the *same* state of facts. A frank and unreserved disclosure of every material fact, is of the essence, and gives binding force to the contract. It is scarcely necessary to point to the spirit which prevails in this species of agreement, as contrasted with that which regulates the common law in respect to others; the contrast is too strongly marked to escape the observation of the most superficial student.

In contracts of insurance, the most punctilious honor is required—yet there is nothing peculiar or sacred in them, nor in the subjects to which they relate, which should give such exaltation to them. Insurance, unquestionably, is of very great practical advantage—still, it is difficult to assign any substantial reason for the marked distinction or contrast which we have pointed out. In other agreements the common law is satisfied by requiring merely that the contracting parties shall refrain from palpable fraud. And whilst contracts of insurance seem to be the special objects of protection from imposition, in an infinite variety of others, growing out of the varied necessities and pursuits of men, *caveat emptor* is the only response of the common law, however blindly or ignorantly the parties may have acted in respect to the subject of the contract.

It is true, that the strict rule of which we have spoken, teaches vigilance and caution in the affairs of life. Parties are cautioned by it, against an over confidence. Ignorance is punished, and the careless, unsuspicious man is made an example—"*Vigilantibus non dormientibus subserviunt legis.* Thus, in effect, declaring that he who watches while you sleep shall enjoy undisturbed, the fruits of his cunning.

Now is it not difficult to discover or assign a reason why the same principle

which lays at the foundation of contracts of insurance, should not apply to all the others? In other words, should not the same rule apply to all cases involving the same principle? If the difference which has been attempted to be shewn, in fact exists, and if the law is founded in reason, there certainly should be some reason for the difference.

Thus far we have endeavored to follow two distinct systems of jurisprudence, in operation at the same time; and, of course, affecting at the same time, to a greater or less extent, the interests and prosperity of the community. The antagonist principles involved in these systems, have, to some extent, been pointed out.

As before stated, it is not our purpose to detract from either, or lessen in the least degree the respect and confidence which all good men should feel for our laws and their impartial administration. No one will deny but that we are much indebted to these systems of jurisprudence for the prosperity and security in our possessions and rights, which we enjoy in such a pre-eminent degree. Still we think our laws like every thing else of human origin — are capable of improvement. And though wise men and philosophers have told us that "it is of little consequence what the law is, provided it be certain," we beg permission to raise our humble voice against a proposition so unreasonable and devoid of principle. Every wise and good law, we maintain, will be found on examination to be in strict conformity to common honesty. Laws which are worthy of our respect, and which are calculated most surely to afford us protection, are always found to be in conformity to sound morality. No matter how *certain* laws may be, if they are arbitrary and depart widely from the rules which common sense and common honesty prescribe, they can never be a safe-guard to any people. For, any system to entitle it to respect, should aim at justifiable ends by justifiable means; and every deviation from what is just in morals, is itself unjust.

If these simple truths are lost sight of, the law looses its vigor, and its ministers become impotent for good. For, says a learned writer‡ "if law be a science and deserves that sublime name, it must be founded in principle, and claim an exalted rank in the empire of reason." Indeed, the law cannot fulfil its true uses if it rests upon any other basis than that of common sense and moral reason. Sound legal ethics and those of strict honesty, should always go hand in hand.

With these remarks upon our system of jurisprudence, and its administration, in respect to (as affecting) contracts, let us now, in conclusion, briefly consider whether any, and what, improvements can be made. The suggestions we are about to submit, are not made in any spirit of innovation: they are submitted because it is believed they are founded in reason and sound morality, and, in so far as our views are sound, tested by the rules we have laid down, they will stand through all time, and no arguments of human reason are necessary to their support.

We maintain that the principles of sound morals should be the pervading prin-

‡Sir William Jones.

ciple in the laws of contracts; that the law, in respect to agreements, should maintain equality; and that these simple, yet most important, principles should be universal, and applicable to all contracts of every kind. That it is practical, we have seen from our reference to the law of insurance; that it is reasonable and just, we think none will deny.

The rule that the buyer must take the risk of his purchase, except when there is an express warranty, or some positive fraud practiced upon him, is certainly not founded in reason. The law of sales is, in fact, of the greatest importance in every community, and, probably, affects more directly the great mass of mankind than any one law known to our system. Hence, it is vastly important that its rules should be founded in principle and well settled.

Other laws touch the concerns and business of life but now and then—but in contracts of sale and exchange, the law governing them is in constant operation. As a general rule, the vendor of a commodity knows as well the value and quality of his property as he does his title to it; why, then, should he not be responsible if the commodity sold is not such as the bargain plainly indicates it was understood and believed to be by the buyer? If this rule prevailed, every temptation to overreach, or perpetrate a fraud, would be cut off. In case of a fraud, the penalty would then fall on the right person. As the rule now stands, the burthen of proving a fraud rests on the buyer—a sort of penalty for his want of vigilance and scrutiny at the time of making his bargain. This may often be difficult and often times impossible to prove. But under the rule contended for, let the fact of any defect, existing at the time of sale, in the commodity, be *prima facie* evidence against the vendor, and we hazard nothing in saying that nine-tenths of the litigation and strife that now disturbs the community, would be done away with. It may be answered, that cases may occur in which it would be as difficult to the vendor to know the quality or value of his property as it would to the vendee. Granted: and there is no doubt that, in very many transactions, such would be the case. But how easy would it be for every vendor thus circumstanced, to protect himself from any responsibility, by stating the fact, and provide, in his agreement, against the liability which it is but reasonable, if not so provided against, that he should incur. Such, in general terms, is the principle we desire to see established.

It has not been our purpose to extend our views at much length in support of the principles here enunciated. We may again avail ourselves of the pages of the WESTERN JOURNAL for the further consideration of this interesting, and as we think, important subject.

COMMERCIAL STATISTICS.

A table of Imports and Exports of the United States, from the year 1791 to 1847, inclusive; together with the excess of Imports or Exports for each year, and the nett revenue accruing from Imports during the same period.

Years.	Imports.	Exports.	Excess of imports.	Excess of exports.	Nett revenue from imports.
1791	$52,000,000	$19,012,041	$32,987,959	.....	$4,399,473
1792	31,500,000	20,753,098	10,746,902	.....	3,443,070
1793	31,100,000	25,109,572	4,990,428	.....	4,255,306
1794	34,600,000	33,026,233	1,573,767	.....	4,801,065
1795	69,756,268	47,989,472	21,766,796	.....	5,588,461
1796	81,436,164	67,064,097	14,372,067	.....	6,567,987
1797	75,379,406	56,860,206	18,529,200	.....	7,549,649
1798	68,551,700	61,527,097	7,024,603	.....	7,100,961
1799	79,068,148	78,665,522	402,626	.....	6,610,449
1800	91,252,768	70,971,780	280,988	.....	8,080,932
1801	111,363,511	94,115,225	17,247,586	.....	10,750,779
1802	76,333,333	72,483,160	3,850,173	.....	12,438,235
1803	64,666,666	55,800,033	8,869,633	.....	10,479,417
1804	85 000,000	77,699,074	7,300,926	.....	11,098 565
1805	120,000,000	95,566,021	24,433,979	.....	12,936,487
1806	129,000,000	101,536,963	27,463,037	.....	14,667,698
1807	138,000,000	108,343,150	29,656,850	.....	15,845,521
1808	56,990,000	22,430,960	34,559,040	.....	16,393,550
1809	59,400,000	52,203,231	7,196,769	.....	7,296,020
1810	85,400,000	66,757,974	18,642,046	.....	8,588,309
1811	53,400,000	61,316,831	....	$7,916,831	13,313,222
1812	77,039,000	38,527,236	38,502,764	.....	8,958,777
1813	22,005,000	27,855,997	.....	5,850,997	13,224,623
1814	12,965,000	6,927,441	6,037,553	.....	5,998,772
1815	113,041,274	52,557,753	60,483,521	.....	7,282,942
1816	147,103,000	81,920,452	65,182,548	.....	36,306,874
1817	99,250,000	87,671,569	11,578,431	.....	26,283,348
1818	121,750,000	93,281,133	28,468,867	.....	17,176,385
1819	87,125,000	70,142,521	16,982,479	.....	20,283,608
1820	74,450,000	69,691,669	4,758,331	.....	15,005,612
1821	62,585,724	64,974 382	.....	2,389,658	15,155,418
1822	82,241,541	72,160.281	10,081,260	.....	21,219,116
1823	77,579,267	74,699,030	2,880,237	.....	17,717,830
1824	80,549,007	75,986,657	4,562,350	.....	20,216,059
1825	96,340,075	99,525,388	.....	3,195,313	26,367 904
1826	84,974,477	77,595,322	7,379,155	.....	18,997,478
1827	79,484,068	82,324,327	.....	2,840,759	23,378,056
1828	88,509,824	72,264,686	16,245,138	.....	24,890,337
1829	74,492,227	72,358,671	2,133,850	.....	22,296,512
1830	70,876,920	73,849,508	.....	2,992,588	22,833,573
1831	103,191,124	81,310,583	21.880,541	. .....	30,312,851
1832	101,089,266	87,176,943	2,852,323	.....	21,488.596
1833	108,181,311	90,140,433	18,040,778	.....	14,797,782
1834	126,521,332	104,337,972	22,184,360	.....	13,455,111
1835	149,895,742	121,693,577	28,202,165	.....	21,552,272
1836	189,980,035	128,663,040	61,316,995	.....	26,325,839
1837	140,989,217	117,419,376	23,469,841	.....	13,315,129
1838	113,717,404	108,486,616	5,230,788	.....	15,373,238
1839	162,092,132	121,028,416	41,063,716	.....	20,560,439
1840	107,141,519	132,085,946	.....	24,944,427	10,159,339
1841	127,946,477	121,851,803	6,094,674	.....	15.516,589
1842	100,162,087	104,691,534	.....	4.529,447	12,780,173
1843*	64,763,799	84,446,480	.....	19,582,681	6,132,272
1844	108,435,035	111,200,946	.....	2,715,901	26,183,570
1845	117,254,569	114,646,606	.....	2,607,958	27,528,112
1846	121,691,797	113,488,616	8,203,181	.....	26,712,665
1847	146,545,636	158,648,622	.....	12,102,986	23,747,564

*The commercial year of 1843 consisted of only nine months, and the fiscal year of only six months. This will account for the diminished imports and exports of that year. It is also worthy of remark, that the fiscal year of 1843 not only consisted of but six months, but of those six months in which the imports are generally the least; and hence the great falling off of the revenue. The facts above stated arose from the change of the commercial and fiscal year. The increased export of 1847 arises from the famine in Europe.

A STATEMENT showing the quantity of Tobacco inspected in Virginia from 1838 *to* 1847, *the quantity exported, and the foreign markets to which it was shipped; the stock left on the first of October of each year; likewise, the quantity of stems shipped during the same period, and the foreign markets to which they were shipped.*

Years.	U. Kingdom. Tobacco.	Cowes and a market. Tobacco.	Stems.	France. Tobacco.	Bremen. Tobacco.	Stems.	Holland. Tobac.	Stems.
1838····	12,321	1,170	····	4,743	616	1,908	319	128
1839····	13.350	2,463	738	1,115	236	2,317	1,236	919
1840····	12,228	1,064	····	5,268	1,158	876	3,828	1,177
1841····	16,563	2,785	····	7,395	1,504	3,843	2,497	2,013
1842····	10,625	2,818	556	3,747	4,573	2,294	7,637	395
1843····	11,424	5,400	····	4,098	3,013	1,543	6,975	321
1844····	6,961	1,075	····	605	5,168	1,935	3,810	689
1845····	6,525	····	····	4,542	1,422	2,622	1,842	560
1846····	11,045	750	····	1,623	1,055½	2,458	2,092	222
1847····	5,453	····	····	5,333	844	5,407	627	81

STATEMENT—*Continued.*

Years.	Antwerp. Tobac.	Stems.	Italy, Spain, etc. Tobac.	Stems.	Total Shipped. Tobacco.	Stems.	Inspected. Tobacco.	Stock. Tobacco.
1838····	225	····	734	····	20,828	2,036	44,845	12,397
1839····	329	57	····	····	18,729	4,031	28,502	4,896
1840····	2,028	136	1,621	····	27,195	2,189	58,186	13,829
1841····	2,026	218	1,672	····	34,442	6,074	56,141	8,719
1842····	1,828	····	1,515	····	32,765	3,245	52,156	11,100
1843····	4,814	····	512	136	36,236	2,000	56,788	13,420
1844····	1,817	····	1,061	63	20,494	2,687	45,886	14,362
1845····	1,019	····	2,354	····	17,704	3,182	51,113	22,060
1846····	1,698	····	2,782	····	21,045	2,680	42,679	19,060
1847····	774	····	3,529	····	16,560	5,488	51,726	18,127

Comparative Receipts, Exports to foreign ports, and stock of the Maryland and Ohio Tobacco Crop, and also the Kentucky, Missouri and Tennessee crops, for the years 1846 *and* 1847,

	MARYLAND AND OHIO.				KENTUCKY, ETC.		
Years.	Receipts. Hhds.	Exported. Hhds.	Stock. Hhds.	Years.	Receipts. Hhds.	Exported. Hhds.	Stock. Hhds.
1846····	55,461	36,777	34,029	1846····	72,896	62,045	17,046
1847····	37,600	37,678	32,596	1847····	55,588	50,376	22,336

TRADE AND COMMERCE OF HAVANA.

The following particulars of the commerce of Havana, for the first six months of 1847, as compared with the same time in 1846, is derived from "Diario de la Marina," of July 16th, 1847:—

The number of vessels *entered* Havana, during the first six months of 1846, was 824. Of these, 316 were Spanish, and 508 foreign; during the same time, this year, the number was 1,085, of which 272 were Spanish, and 813 foreign. The number of vessels *cleared* the first six months of 1846, was 821, of which 307 were Spanish, and 514 foreign; same period, this year, 1,085, of which 267 were Spanish, and 828 foreign. Of this increase in foreign vessels, the American flag had the largest number, in consequence of the great importation this year of the productions of the United States.

From the table giving a comparative statement of products registered for exportation from the port of Havana during the first six months of the last twelve

years, we take the articles of sugar, coffee, and tobacco, and compile the following table for only the last five years:

	1843.	1844.	1845.	1846.	1847.
Sugar, boxes,	310,788	390,110	157,389	319,960½	426,873
Coffee, arrobas,	575,670	523,321	140,383	101,025	294,166
Tobacco, manufac.	68,673	84,451	63,840	80,602½	94,048
Tobacco, leaf,	899,349	866,949	572,662	2,003,450	754,503

Another table gives a comparative statement of the exportation from Havana to different ports, during the first six months of 1846 and 1847. We take only the articles of sugar, coffee and tobacco:

Ports.	Sugar. Boxes.		Coffee. Arrobas.		Tobacco. Manufactured.		Tobacco. Leaf.	
	1846.	1847.	1846.	1847.	1846.	1847.	1846.	1847.
Spain,	74,969	50,466	21,598	23,087	4,654	17,652	474,314	144,402
United States,	52,960	110,532	36,633	68,323	23,483	15,044	407,152	163,191
England,	2,369	57,911	465	1,298	11,103	12,511	104,172	16,625
Cowes,	83,303	62,489	48	2,836	630	1,804	6,933	.....
Baltic,	6,825	24,710	....	2	1,356	181	....	.....
Hamb. & Bremen,	41,954	30,586	5,944	21,286	5,801	9,971	877,021	249,408
Holland,	5,956	15,569	12	146	766	1,350	25,100	.....
Belgium,	8,840	17,370	6	16	1,278	1,679	7,500	7,875
France,	15,973	13,437	13,944	97,764	19,981	19,588	50,872	131,000
Trieste & Venice,	8,464	8,796	14,821	47,830	360	5,513	....	1,102
Italy,	6,883	3,947	800	8,282	1,588	653	9,358	.....
Other ports,	5,131	6,489	1,559	11,231	2,620	2,162	51,644	6,690
Total.....	513,318	401,302	95,530	282,201	75,620	88,208	2,016,066	720,293

We give the substance of the Diario's article, which refers to the above exports:

"From the first statement, it appears that, in the six months ending the 30th of June, sugar has increased 106,912½ boxes over the same period, last year, and 36,763 boxes over that of 1844, which was the year of greatest production and exportation, thus proving that the crop ought to be abundant. The exportation of this product, as appears from the totals in the second statement, conforms with the entry, 87,984 boxes more having been shipped, than in the first six months of last year. In the distribution of the exports, we see that an excess over those of last year, of 57,572 boxes, has gone to the United States; of 55,542 to England; of 18,185 to the Baltic; of 9,613 to Holland; of 7,530 to Belgium; of 332 to Trieste and Venice; of 1,358 to various ports, The exports to Spain have fallen off 24,494 boxes; to Cowes, 20,814; to Hamburgh and Bremen, 11,368; to France, 2,536; and to Italy, 2,936. The diminution in the exports of sugars to the peninsula, is not to be wondered at, since the same thing is observable in the maratime movements of our national vessels, and the causes, of which we have before spoken, are known. The falling off at Cowes, is made up in the very considerable increase of direct shipments to England and the Baltic. Besides, the peculiar circumstances in which, until now, Europe has been placed, must have had an influence on trade in general, and we could not hope to be an exception, although, in truth, we cannot complain, since, fortunately, the United States, by the modification of the tariff, and on account of the diminution of the crop of Louisiana, have taken from us much, while we have

imported more of their productions. Recurring, however, to the total exportation, we will add to those of Havana the sugars which have been shipped in the same six months from Matanzas and Trinidad. From Havana, the number of boxes was 401,302; from Matanzas, 269,325 7-8; from Trinidad, 34,534 1-2—in all, 705,162 3-8 boxes. Although we have the returns of only the first three months from Cienfuegos, we may yet add to the above, the 17,540 boxes shipped thence in that time, making the exportation, so far as we have information, to this time, already reach 722,702 boxes.

"As with sugars, so with coffee exported hence; the increase of the latter over the first six months of last year, being 186,671 arrobas. Tobacco, in the leaf, appears to have had an extraordinary falling off in exportation—being no less than 1,295,773 pounds, while in the manufactured article there has been an increase."

COMMERCE OF THE UNITED STATES WITH CHINA.

The annexed statements of the commerce of China with the United States, for the year ending June 30th, 1847, are derived from the "*European Times*:"

Imports into China, from the U. States, from July 1, 1846, to June 30, 1847.

Blue drills, pcs	3,300	Yarn, piculs,	2,943	Flour, barrels,	800
Brown drills,	460,830	Lead,	4,855	Bread, pounds,	18,903
Brown jeans,	46,740	Copper,	79	Beef, barrels,	229
Brown sheetings,	33,218	Spelter,	555	Pork,	70
White drills,	4,697	Cochineal, ceroons	114	Furs,	10,527
Brown twills,	286	Ginseng, piculs	2,796	Candles, boxes,	260
Shirtings,	251	Opium, chests,	17	Specie, dollars,	33,433

Exports of Tea from China to the United States, for the seasons of 1846-7 and 1845-6.

	1846-7. *Pounds.*	1845-6. *Pounds.*		1846-7. *Pounds.*	1845-6. *Pounds.*
Congou and Souchong,	3,146,126	3,064,160	Twanky and Hyson Skin,	2,770,705	2,588,776
Pouchong,	372,736	946,378	Young Hyson,	8,572,181	8,633,731
Oolong,	685,695	220,294	Imperial,	983,836	854,043
Pekoe,	120,398	35,435	Gunpowder,	1,307,017	1,253,709
Orange Pekoe,	173,350				
Hyson,	754,243	905,566	Total*	18,886,287	18,502,092

Total Exports of Tea from Canton, for the seasons of 1846-7 and 1845-6, to the following countries:

	1846-7. *Pounds.*	1845-6. *Pounds.*		1846-7. *Pounds.*	1845-6. *Pounds.*
To Gt. Britain,	53,448,339	57,622,803	To Hanseatic [Towns,	1,071,560	1,383,252
United States,	18,886,287	18,502,092	France,	226,790	364,580
Holland,	3,054,540	3,054,130			

*Including the Mary Ellen, lost in Gaspar Straits, cargo 716,110 pounds.

Exports from China, to the United States, of silks and sundries, for the seasons of 1846-7, *and* 1845-6.

	1846-7.	1845-6.		1846-7.	1845-6.
Pongees, pieces,	54,487	54,604	Gauze, boxes,	56	000
Handkerchiefs,	24,381	50,975	Cassia, piculs,	6,335	7,867
Sarsnets,	6,505	6,167	Matting, rolls,	16,103	23,538
Senshaws,	5,232	4,085	Gamboge, boxes,	1	159
Camlets,	000	20	Rheubarb,	763	1,135
Lustrings,	357	000	Vermilion,	173	176
Satins,	1,262	1,982	Sweetmeats,	1,223	4,637
Damasks,	622	321	Pearl Buttons,	70	204
Levantines,	1,322	1,099	Chinaware,	105	644
Crapes,	1,500	199	Fire Crackers,	18,685	20,510
Shawls and Scarfs,	54,627	143,277	Oil of Cassia,	244	154
Sewing Silk,	000	630	Oil of Anis,	144	174
Raw Silk, boxes,	316	426	Camphor,	750	1,346
Nankeens,	28	000	Fans,	1,189	1,168
Grass Cloth,	139	692	Lacquered Ware,	157	377

PROGRESS OF THE AMERICAN CHEESE TRADE.

There is no product of the United States that has been so steadily gaining favor in foreign markets, for the last fifteen years, as the article of cheese; and desiring that the farmers of the west should participate in the advantages accruing from the increasing demand for this commodity, we wish to call their attention to the following statistics. We are not aware that there is any reason why cheese may not be made as profitable in the western States as in New York. It is true that the freight would be something more, but there are many advantages in the valley of the Mississippi, which are greatly in favor of the western stock grower. The first of these is the low price of land, and the great advantage, at present, of summer range.

Cheese will bear transportation better than any agricultural article produced in this country, and carries with it less of the productive properties of the soil in proportion to its value. This is a branch of husbandry that requires little outlay of capital, and can be carried on as cheaply as any other, and we feel confident that if a few enterprizing individuals were to set the example, that Missouri and Illinois would in a few years not only rival, but advance far beyond, New York, Pennsylvania, and Ohio, in the production of cheese.

We should be pleased to hear from some of our agricultural friends upon the subject of making cheese in the west; and we should like very much to see a comparative statement made between the profits of growing corn for market, at ten to fifteen cents per bushel, and cheese at the fair market price.

Almost the entire amount received for cheese would be a clear gain to the country—for the greater part of the products which constitute the food of cattle, is of so little value, when compared to its bulk, that it will not bear transportation to a market, and much of the attention and labor connected with cheese-making, would not be otherwise employed.

The "Detroit Free Press," the State paper of Michigan, furnishes the following statement of this new and rather important branch of trade:—

"The cheese trade is rapidly augmenting in this country. The foreign exports of it have become a prominent article of supply for distant climes. Up to 1840, there was but a small quantity of it shipped, and that principally on foreign account. That year, Messrs. Goodrich & Co., of New York, and the Messrs. Green, of Boston, made the experiment of large consignments to England. Of course, they met with the usual prejudices, the market before having been furnished with foreign cheese from Ireland and Holland. By perseverance, the American article gradually came into favor, until it has now reached a heavy consumption. It fills part of the cargo of almost every vessel that leaves our seaports for Liverpool. The statistics of export, as will be seen by the following, betoken a still further extension, which is worthy the attention of farmers of this State:—

1840,	-	-	lbs.	723,713	1844,	-	-	lbs. 7,433,145
1841,	-	-	-	1,748,781	1845,	-	-	- 7,941,187
1842,	-	-	-	2,456,677	1846,	-	-	- 8,675,390
1843,	-	-	-	3,440,144				

This foreign export trade has now reached over a million of dollars annually. It goes to fifty-two countries. Our heaviest customers, in 1846, were:—

England,	-	-	lbs.	6,744,699	Hayti,	-	-	lbs. 150,046
West Indies,		-	-	807,040	British Guiana,	-	-	162,420
Cuba,	-	-	-	227,276	Scotland,	-	-	- 88,041
Canadas,	-	-	-	185,915	Venezuela,	-	-	- 40,812

Until within five years, cheese has usually been kept on sale in our eastern cities by grocers and produce dealers, with a general assortment of other products. A total revolution in this respect has taken place. In New York and Boston, extensive houses, exclusively for cheese, are doing a large business. Several commission houses are now solely engaged in it.

The farmers of our State seem to have neglected this important branch of the dairy. Every other saleable product is produced here in abundance; why not add this to our list of exports! We certainly possess the grazing land. Still we do not make 20 per cent. of the cheese consumed in the State. Daily it is shipped here from Buffalo, and goes into the interior of this State. Ohio also sends her hundreds of tons to our market. Neither Western New York nor Ohio possesses more advantages for its manufacture than our own farmers. We are told that, at the prices it has borne for the last five years, it is much more profitable than butter. In fact, for three months in the year, butter does not sell at any higher price. All dairy-women agree that two pounds of cheese are made easier than one pound of butter. Yet it is neglected.

In several towns near Buffalo, (Hamburgh and Collins,) it is the principal business of the farmers, and all who have embarked in it have greatly added to their wealth. Chautauque County farmers have increased their cows for cheese-

making; Herkimer County, N. Y., produced 8,000,000 lbs. in 1845, according to the State census; St. Lawrence, 9,000,000 lbs. In Alleghany County, heretofore, lumber was the principal production; nearly every farmer now turns out his five to twenty casks of cheese in the fall. All the southern tiers of counties in that State are largely embarking into it. The census of 1835 gives the quantity made in the State at 36,000,000 lbs. Ohio has doubled her exports of it within five years. Indiana cheese is now becoming known in the market.

As a sample of its increase, we give the following statistics of the amount that arrived at tide water on the Hudson River, from the canal collector's books:—

Year.	Lbs.	Exported.	Year.	Lbs.	Exported.
1834,	6,340,000		1841,	14,170,000	1,748,781
1835,	9,586,000		1842,	19,004,000	2,456,677
1836,	14,060,000		1843,	24,334,000	3,440,144
1837,	15,560,000		1844,	26,672,500	7,433,145
1838,	13,810,000		1845,	29,371,000	7,941,187
1839,	14,530,000		1846,	34,812,513	8,675,390
1840,	18,820,000	723,713			

Here is a large quantity, but a ready market is found. The increase of foreign exports is large. Up to last fall, the duty on it in England was $2 42 per 100 lbs. Sir Robert Peel's new tariff reduced it to $1 per 100, which will cheapen it to British consumers. The prices range in Liverpool, according to quality, from $10 to $15 per 112 lbs., and for three years past, the London market has never been overstocked but three or four times, which has lasted but two to five weeks. It is getting introduced into all circles, and driving the Dutch article out of market. Mr. Coleman, in his Agricultural Tour in Europe, says he found it gracing the tables of the lords and nobles, where, five years ago, it had never found its way. He dined with a marquis, who treated him to American cheese, American apples, American cranberries, and American cider in bottles.

It is now exported to the East Indies in boxes, found in Calcutta, and goes, with other notions, to the celestials of China. None but the real skim-milk grind-stones, however, can stand a hot climate.

COMMERCIAL REGULATIONS.

ILLINOIS AND MICHIGAN CANAL.

In pursuance of the provisions of the 15th section of the law of February 21, 1843, the undersigned, Trustees of the Illinois and Michigan Canal, have established the following rates of toll on articles to be transported upon said canal during the year 1848:

1. *Rates of Toll on Boats.*

	CENTS.	MILLS.
On each boat used chiefly for transporting common freight, 3 1-2 cents per mile, - - - - - - - -	3	5
On each boat used chiefly for transporting mineral coal, 3 cents per mile, - - - - - - - - -	3	
On each boat used for transporting passengers, 6 cents per mile,	6	

2. *On Passengers.*

On each passenger 8 years old and upwards, 4 mills per mile,	0	4

Each passenger eight years old and upwards, shall be allowed sixty pounds baggage or household furniture, (if belonging to or used by such passenger,) free of toll.

3. *On the following named articles, toll will be computed according to weight, that is to say, the following rates per mile will be charged on each* 1,000 *pounds and the same proportion for a lesser or greater weight:*

	MILLS.
Ale,	10
Agricult'l. implem'nts,	10
Animals, domestic,	10
Anvils,	15
Ashes, wood,	4
Beef,	10
Beans,	10
Bread,	10
Beer,	10
Butter,	10
Baggage,	20
Beeswax,	10
Bacon,	10
Brooms,	10
Broom handles,	10
Broom Corn,	10
Bristles,	10
B— Blocks,	12
Barley,	10
Buckwheat,	10
Blooms,	15
Bran,	5
Bark, tanners,	5
Barrels, empty,	10
Coffee,	15
Crockery, in crates,	15
Cheese,	10
Crackers,	10
Cordage,	10
Cotton Bagging,	10
Cotton, raw, in bales,	10
Coopers' ware,	10
Carpenters and Joiners' work,	10
Carriages,	10
Candles,	10
Corn,	5
Cider,	8
Clocks,	20
Charcoal,	5
Coal,	1½
Coke,	2½
Clay,	2
Eggs,	10
Flour,	7½
Flax,	10
Fruit, home,	10
Fruit, foreign,	15
Fish,	10
Furniture, household,	20
Feathers,	15
Flags, for chairs,	15
Furs and Peltries, all kinds,	25
Grease,	7
Ginseng,	10
Grindstones,	6
Gypsum,	6
Glass and Glassware,	15
Hemp,	7½
Hides,	10
Horns and Tips,	10
Hair,	10
Hoops,	15
Hams,	10
Household furniture, accompanied by and belonging to families emigrating,	15
Hay and Fodder	5
Heading,	3
Hoops and materials for	3
Hubs, boat knees and bolts,	2
Iron, pig and scrap,	7½
Iron, wrought or cast,	15
Iron tools,	15
Ice,	1
Leather,	15
Lard,	10
Lime, common,	3
Lime, hydraulic,	6
Lead, pigs and bar,	20
Merchandize, including dry goods, groceries, hard ware, cutlery, crockery, & glass ware, and all articles not specified	20
Manilla,	10
Malt,	7½
Molasses, in hhds. or bbls.,	15
Meal,	5
Marble, unwrought,	6
Marble, wrought,	15
Marble Dust,	9
Mill-stones,	12
Machinery,	15
Mechanics' tools,	15
Manure,	8
Nuts,	9
Nails,	15
Oats,	6
Oil Cake,	6

	MILLS.		MILLS.		MILLS.
Oil, linseed and corn,	12	Seeds,	10	Tallow,	10
Oil, lard,	10	Salæratus,	10	Tar,	10
Ore,	8	Salts of ley,	10	Tomb-stones, not marble,	6
Peas,	10	Soap,	10	Trees, shrubs and plants,	6
Provisions, salt & fresh,	10	Sumach,	10	Tobacco, not manufactured,	7½
Pork,	7½	Skins, animal,	10	Tobacco, manufac'd,	15
Pot and Pearl Ashes,	10	Sleds and Sleighs,	10	Veneering,	10
Porter,	10	Saddle-trees,	10	Vinegar,	10
Palm Leaf,	10	Shorts and screenings,	5	Wheat,	7½
Potter's ware,	10	Strip stuff,	5	Whisky & high wines,	10
Pitch,	10	Spikes,	15	Wool,	10
Potatoes and other vegetables,	6	Starch,	10	Wooden ware,	10
Paper,	15	Shot,	20	Wagons and other vehicles,	10
Powder,	15	Steel,	20	White Lead,	10
Rags,	9	Spirits, except whisky,	25		
Rosin,	9	Straw,	4		
Rye,	6	Staves,	3		
Salt,	8	Sand, and other earths,	2		
		Stone, cut and sawed,	3		

4. *On the following named articles toll, per mile, will be computed by number or measure:—*

	CENTS.	MILLS.
On each 1000 feet (board measure) of lumber, per mile,	1	
On each 100 cubic feet of timber, hewed or round, if transported in boats,	1	
On same, if transported in rafts,	2	
On each 1000 brick,	1	
On each 1000 laths or shingles,		2½
On each 100 split posts or rails, for fencing,	1	
On each cord of wood for fuel,	1	2
On each cubic yard (27 cubic feet) dressed stone,		5
On each cubic yard (27 cubic feet) undressed stone,		2

In ascertaining the amount of toll chargeable on any article, the weight of the cask, box, bag, crate, vessel or thing, in which said article is contained, shall be added to the weight of the article itself, and the toll computed accordingly.

If two or more articles, chargeable with different rates of toll, shall be contained in the same cask, box, or vessel, the whole shall be charged with the highest rates of toll chargeable on any article so contained.

The rafting of timber on the Canal or the Feeders is prohibited, unless by written special agreement with the Superintendent of the Canal. Any violation of this order will subject the person violating it, to a penalty of ten dollars for every such offence.

[Signed,] W. H. SWIFT,
D. LEAVITT,
CHARLES OAKLEY.

Office of the Board of Trustees of the Illinois and Michigan Canal,
February 21, 1848.

The following is a rough estimate of the probable rates of freight on leading articles, from Peru, Illinois, to Albany, New York, on the Illinois and Michigan Canal:

PACKAGE.		Toll on Ill. and M. Canal	Probable frt. from Peru to Chicago.	Shipping ch. at Chicago.	Lake freight.	Buffalo ch'gs.	Supposed E. Canal freight.	Aggregate.	REMARKS.
Flour..	bbl..	15	22	2	25	2	55	$1 66	Spring and Fall average.
Pork..	bbl..	37½	50	4	50	6	90	2 00	
Beef..	bbl..	30	42	5	50	6	90	1 92	
Provisions..	100lb..	10	16	1	18	2	30	67	
Molasses..	"	15	20	5	5	5	40	75	By vessel on the Lakes.
Sugar..	"	20	25	5	5	5	40	80	
Merchandise,	"	20	30	5	25	10	50	1 20	Steam on Lakes.
Furniture..	"	20	35	5	50	10	75	1 75	
Wheat..	Bush..	4.5	7	2	10	1	16	36	[known.
Corn..	"	2.8	5½	2	11	1			Rate on Erie Canal not

THE NEW CORN LAW OF GREAT BRITAIN.

The new corn bill (9th and 10th Vic. cap 22) came into operation on the 27th June, 1847, and the duties payable under it, until the 1st of February, 1849, are as follows, viz. :—

If imported from any foreign country, not being a British possession.

WHEAT. *Average price.*	DUTY.	FLOUR AND WHEAT MEAL. *Per Cwt.*	*Per Bbls. of 195 lbs.*
under 48s	10s	3s 5 1-2d	6s 0-6-32
48s and under 49s	9s	3s 1 7-8d	5s 4-31
49s do 50s	8s	2s 9d	4s 9-24
50s do 51s	7s	2s 4 1-8d	4s 2-27
51s do 52s	6s	2s 0 3-4d	3s 7-10
52s do 53s	5s	1s 8 5-8d	3s 0-3
53s and upwards,	4s	1s 4 1-4d	2s 4-28

RYE, PEAS, BEANS, BARLEY, BEAR OR BIGG. *Barley Average.*	DUTY.	OATS. *Average Price.*	DUTY.
under 26s	5s 0d	under 18s	4s 0d
26s and under 27s	4s 6d	18s and uuder 19s	3s 6d
27s do 28s	4s 0d	19s do 20s	3s 0d
28s do 29s	3s 6d	20s do 21s	2s 6d
29s do 30s	3s 0d	21s do 22s	2s 0d
30s do 31s	2s 6d	22s and upwards,	1s 6d
31s and upwards,	2s 0d		

Barley meal, for every 217½ lbs. the duty to be equal to that payable on one quarter barley.

Rye meal and flour, for every 196 lbs. the duty to be equal to that payable on five-eights of a quarter barley.

Pea meal and bean meal, for every 272 lbs. the duty to be equal to that payable on one quarter barley.

Oat meal, for every 181½ lbs. the duty to be equal to that payable on one quarter barley.

If the produce of, or imported from any British possession out of Europe:

Wheat, barley, bear, or bigg, oats, rye, peas and beans, the duty shall be for every quarter, 1s.

Wheat meal, barley meal, oat meal, rye meal, pea meal, and bean meal, the duty shall be for every cwt., 4½d.

On and after the 1st of February, 1849, the duties hereafter named shall be paid, viz:—

Upon all wheat, barley, bear, or bigg, oats, rye, peas, beans, for every quar., 1s.

Upon all wheat meal and flour, barley meal, oat meal, rye meal and flour, pea meal and bean meal, for every cwt. 4½, and in proportion for a less quantity.

WEIGHTS OF PRODUCE, AS ESTABLISHED BY LAW OR CUSTOM IN ST. LOUIS.

Wheat,	bush	60	lbs
Corn,	"	56	"
Rye,	"	56	"
Oats,	"	35	"
Barley,	"	48	"
Potatoes,	"	60	"
Beans,	"	60	"
Bran,	"	20	"
Cloverseed,	"	60	"
Timothy seed,	"	45	"
Flaxseed	"	56	"
Hempseed,	bush.	44	lbs.
Buckwheat,	"	52	"
Castor Beans,	"	46	"
Blue grass seed,	"	14	"
Dried Peaches,	"	33	"
Dried Apples,	"	24	"
Onions,	"	57	"
Salt,	"	50	"
Coal,	"	80	"
Honey, per gallon,		12	"

FOREIGN GRAIN MEASURES.

The following is a correct statement, in American bushels, of the various European measures of grain:

	American Bushels.		American Bushels.
English Quarter,	8 28-100	Leghorn Sack,	2
English Imperial Bushel,	1 4-100	Genoa Emine,	3 34-100
Dantzic Last,	87 15-100	Spanish Fanegue,	1 62-100
Amsterdam Last,	83 37-100	Lisbon Alquiere,	41-100
Hamburg Last,	91 43-100	Copenhagen Tonne,	4 74-100
Rostock's Last,	105 71-100	Swedish Tonne,	3 97-100
St. Petersburg Tchetwert,	5 49-100	Mayence Mattu,	3 37-100
Odessa Tchetwert,	6 6-100	French Hectolitre,	2 85-100
Naples Tomolo,	1 57-100		

THE EFFECTS OF FROST ON VEGETATION.

In a climate like that of Missouri, where vegetation is so liable to be injured by frost during the spring season, it is important to inquire whether any method can be devised to guard against this injury. It is known to those who have been in the habit of observing the effects of frost upon vegetation, that the injury produced does not always correspond with the apparent quantity that has been formed upon the tender plants. Sometimes a white frost will pass off with little injury, and again much harm is done when there was but little frost to be observed. By carefully noting the condition of the atmosphere, and the changes of temperature

which take place from sunrise until the frost shall have been melted, the causes why the effects produced are not in accordance with the apparent quantity might be ascertained with some degree of certainty. It has been frequently observed, that if the morning becomes cloudy, so as to prevent the sun from shining on the plants before the frost has melted, it passes off with but little injury. If this fact be well established, it naturally suggests the inquiry whether vegetation can not be preserved from injury by artificial means?

It is established, beyond question, as we believe, that the vitality of a plant is not necessarily destroyed by freezing. Turnips, parsnips, and other plants, freeze in the earth, and still retain their vitality, and vegetate in the spring. This is doubtless owing to the gradual thaw which takes place in the earth; but if a frozen potatoe is exposed to the atmosphere, to thaw, its vitality is destroyed. If the hand, or other part of the body, should freeze, and be suddenly thawed by the fire, the vitality of the part is destroyed, and it mortifies; but if immersed in a vessel of water, just drawn from the well, the thaw will take place slowly, and but little injury will ensue.

From these facts, we are led to conclude that the injury to plants is induced by the sudden thaw, and not by freezing. Hence, if they should be protected from the rays of the sun, or wet with water from the well or spring, before they are effected by the rays of the sun, they would escape from harm. If these conclusions be correct, fruit and other tender vegetables may be preserved, with but very little labor, at least to an extent sufficient to preserve enough of the former for family purposes, and of the latter, for early use.

The following theory, in regard to the effects produced on frozen plants, by sudden exposure to the rays of the sun, is submitted by Johnson, in his Agricultural Chemistry, and appear to us to be a philosophical explanation of the phenomenon:—

1°. When the leaf, fruit, or tuber freezes, the fluid portions slightly expand in becoming solid, but the air in the air vessels contracts in at least an equal degree, and thus allows a lateral expression of the sap vessels sufficient to prevent lesion. When the temperature is slightly raised, the air expands but slightly, and ice is melted long before the gaseous substances reach their original bulk.

2°. But if the rays of the sun strike suddenly upon the leaf or fruit, the surface may at once be raised in temperature 30° or 40° F. The air will consequently expand suddenly, and before the sap is thawed may have distended and torn the vessels, and caused sap and air to be mutually intermingled.

3°. But the moment the sun's rays strike upon the green leaf, its chemical functions commence. It begins to absorb and decompose carbonic acid: and as in the frozen part of the leaf the circulation is not, and in consequence of the lesion cannot be, established, the chemical action of the sun's rays must be expended upon the stagnant sap; and hence those changes not only in the sap itself, but even in the solid parts, which are seen to take place in the withered leaf.

4°. Though not in a state of growth, the tuber of the potatoe contains the living principle, and there must be such a circulation going on in its interior as to maintain an approximate equilibrium of temperature throughout its substance. A sudden thawing of the exterior, will, as in the leaf, expand the air before the circulation can be established throughout the frozen mass. The solid, fluid, and æriform substances which nature has separated and set apart from each other, will thus all be intermingled, and from their mutual action, those chemical changes of which we know the starch of the potatoe to be susceptible, will speedily ensue;—in other words, the potatoe will rot.

We should be much pleased, in case a proper opportunity should occur, if some of our readers would make a practical application of these principles, and advise us of the result. The vegetable should be protected, as much as practicable, from light and air, as well as from the direct rays of the sun; and if water is used, it should be fresh from the spring or well—though cold water might be tried as an experiment.

HISTORY OF THE CULTIVATION OF THE POTATOE.

In an article on the "economy and habits of plants," published in the first number of the Western Journal, we suggested the opinion that the potatoe rot was induced by violence done to the economy of the plant, in propagating it for too long a time from the tubers This article was written perhaps a year ago, at a time when the publication of the Western Journal had not been thought of; and not being designed for publication, we had not examined the history of the cultivated plant farther than our own observation extended in the Southern States.

Desiring to ascertain whether we had been misled by a false theory, we have since inquired into the history of the cultivation of the potatoe, and are happy to find that our views are fully sustained by practical experience.

The following paper from H. A. Parsons, of Buffalo, published in the Cultivator, of March, 1848, we think will be found interesting and profitable to every farmer.

We have appended the advertisement of N. S. Smith, of Buffalo, who offers many varieties of seedling potatoes for sale. In this advertisement will also be found an interesting account of his mode of producing them.

While the subject is before us, we will use the occasion to briefly notice a paper recently read before the St. Louis Horticultural Society, by Emil Mallinckrodt, from which we are happy to find that he sustains our opinion, that the potatoe is a native of the tropics. We must admit, however, that we were somewhat startled at the quotation from Preston's History of the civillzation of the Incas, in the beginning of the article; but we think friend Mallinckrodt has most trium-

phantly confuted Preston's statement, that "wild specimens of this vegetable might be seen springing up spontaneously amidst the stunted shrubs that clothe the lofty sides of the Cordilleras, till these gradually subsided into the masses around the base of the mighty cones, that ran far into the regions of eternal silence, covered with the snows of centuries." This is evidently a fancy sketch. Our friend has attempted to prove that it was impossible for the potatoe to perpetuate its species in so cold a region. He says: "If nature had placed the potatoe in the northern parts of North America, it would never have reproduced itself there, for the tuber would have been destroyed by frost every winter, and the proper seed of the plant would have reproduced itself but once, as *it requires three years before its tubers become mature enough to reproduce seed.* To preserve the plant, therefore, wise mother Nature placed it within a more temperate climate, *where winters are unknown.*"

We leave Mr Preston and Mr. Mallinckrodt to settle these points, however, as they best may—while we refer our readers to the advertisement of Mr. Smith, of Buffalo, in which he offers for sale seed gathered in September last, from balls produced from seed sown in the preceding April. Nor are we prepared to admit that if nature had placed the potatoe in the frigid zone, that its tubers would have necessarily been destroyed by the frost, for we have high authority for saying that the vital principle is not always destroyed by frost if the tuber remains in the earth and thaws with it.

Our main object in noticing this article is to correct the error into which Mr. Mallinckrodt has fallen, in stating that it requires three years to produce flower seed from the seedling potatoe. This error is important, because it is calculated to discourage farmers from sowing seed, instead of cultivating worn out varieties; and we think this error the more likely to do injury, from the fact that it has gone forth to the world under the sanction of the St. Louis Horticultural Society.

"RUNNING OUT OF VARIETIES—CHANGE OF SEED."

MESSRS. EDITORS:—Under the above caption, in the last December number of the Cultivator, you express the belief, that plants and vegetables do not degenerate and that to propagate and continue them in perfection, a change of seed is not necessary. On the contrary, I had supposed that the science of botany and vegetable physiology had established the fact beyond controversy, that "any plant continually reproduced from the same seed on the same soil, will continually degenerate till it becomes extinct." And this important truth, in its application particularly to the potatoe, has been supported, if I mistake not, by the decided opinion of naturalists who have at all investigated the subject, and by the concurrent testimony of history for the last hundred and fifty years. If you will permit a little discussion of the subject, I trust, in case we do not come to the same conclusion, we shall amicably agree to differ; and as it is one that has an important practical bearing, an exhibition of some of the facts within our reach may do some good. It is to be deeply regretted, that in our agricultural literature,

we have no full history of the potatoe. There are many facts regarding it recorded in the treatises of Humboldt and Sir Joseph Banks; in the Edinburgh Encyclopædia, and in many English works of the last century; but such a history as the importance of the subject demands, tracing its propagation, changes, diseases, failures, and reproduction in different countries, is yet a desideratum; and he would be a public benefactor who should prepare it.

I would premise, that an occasional instance of success or failure proves nothing; it may be only an exception to the general rule. So if Mr. Cooper's case, upon which you comment, varies from the general law of nature, it affords but one fact against thousands on the other side. But Mr. Cooper fully admits that potatoes do degenerate, and attributes it to the use of poor seed; and describes one way in which farmers may obtain good seed. That farmers, as he asserts, generally plant their poorest potatoes, I do not believe to be true; in an intercourse among them of more than forty years, accompanied with much observation, I have found such cases to be the rare exception to their general practice. And yet a number of varieties have run out within the last fifty years, and several others, recently in high repute, are fast failing, and have nearly ceased to produce balls. The present disease in the potatoe was generally first noticed in this country in 1843. Soon after that, the agricultural census of this State was taken, which showed that the average product of the potatoe was only ninety bushels per acre—not half what it was twenty-five years ago; and that there had been a falling off of the potatoe crop in the State, of upwards of six millions of bushels, since 1840. See Cultivator, 1846, page 179. A similar decrease was shown in Massachuseetts and in Maine, where the average crop had formerly been two hundred bushels per acre. How is this to be accounted for, but by supposing a general degeneracy of the varieties now in use? A corresponding decrease in the crop is exhibited in the history of the plant in other countries and at other times. In a report made to the Royal Society of Agriculture in France, in 1819, by M. Le Comte de Neufchateau, Minister of the Interior, respecting the labors of Oberlin in the Ban de la Roche, a district of highlands in the east of France, it is stated that "the petotoe had been introduced after the terrible scarcity of 1709." But in 1757, "the original plant of the potatoe had degenerated to such a point as to yield scarcely any increase." To remedy this defect, recourse was had not only to the seed balls, but M. Oberlin "imported from different countries a store of potatoes, which replaced those degenerated; and these new productions continue in great demand at Strasburg market, on account of their excellent quality."

The potatoe appears to have been introduced from America into England first by Sir John Hawkins in 1545. Others were carried there in 1573 by Sir Francis Drake; and others again by Sir Walter Raleigh in 1586, who, in 1610, sent some to be planted on his estates in Ireland. They were first cultivated as a field crop in Lancashire in 1684, before which time they were confined to gardens,

and only used occasionally by the most wealthy. To Lancashire the field culture was confined many years before it was extended much to other counties; but in the early part of the last century, the cultivation of it became general in Ireland and Scotland. In Lancashire the discovery seems to have been first made, that the potatoe, by continued cultivation, became deteriorated both in quantity and quality, and the practice was adopted there, and simultaneously in Ireland, of renewing the root or tuber by planting the seed balls. This continued to be the practice among farmers through the whole of the last century, and during that time hundreds of varieties, that were good for a time, and are named in English treatises on the potatoe, entirely run out. "Farmers," says a standard writer in 1797, "hold it to be necessary to renew the potatoes from the seed once in fourteen or fifteen years; because, after that period, potatoes degenerate, and produce less and less, till they almost come to nothing." Judge Buel, in an essay, remarks;—"The duration of a variety in perfection, is generally computed at from fourteen to twenty years, though this period is sometimes prolonged by a change of soil or climate." The tendency to degenerate was not a mere opinion, but a fixed fact, attested by the general observation and experience of farmers. It was the same in various parts of Germany, and particularly in Nova Scotia, where the finest potatoes were formerly grown. In that Province little reliance is placed on the introduction of tubers from abroad; their experience tells them, that a reproduction from the seed balls is the most sure and profitable. And in no part of the world, probably, has this reproduction been resorted to oftener than there.

Mr. T. A. Knight, the former distinguished President of the London Horticultural Society, experimented with the potatoe many years, and in fact made it a particular subject of investigation during his life. In a treatise in the British Farmer's Magazine, he says:—"The first point to which I wish to direct the attention of the cultivator of the potatoe is, *the age of the variety;* for it has long been known, that *every variety cultivated, gradually becomes debilitated; and loses a large portion of its powers of producing; and I believe that almost every variety now cultivated in this and the adjoining counties, has long since passed the period of its age, at which it ought to have resigned its place to a succession.*"

Similar to the above is the language used in the Library of Useful Knowledge, Farmer's Series:—"It has been ascertained by repeated trials, that every variety of the potatoe, when propagated during a series of years, either by cuttings from the root, or by the whole tubers, is subject to degenerate: in some, the quality remaining good after the produce in quantity has become defective, whilst with others it disappears with the vigor of the plant."

In the year 1778, a disease called the *curl*, affecting both the vine and tuber, appeared among several varieties of potatoes in England, and soon spread through Scotland and Ireland, and subsequently developed itself more or less in this country. It occasioned a general panic, as much, perhaps, as the disease that has made such havoc for a few years past; and the multitude of books and pam-

phlets that were written on the subject, was beyond all precedent. Scientific men engaged in a great variety of experiments, and Parliament ordered investigations, &c., but nothing absolutely conclusive was ascertained as to the nature or cause of the disease, or the proper remedy. The more general belief seemed to be, that the disease was more or less induced by the age or deterioration of varieties, as those more recently produced from the seed were almost wholly exempt. As the result of experiments, it was acertained that varieties differed greatly in their nutritive properties—from thirty to fifty per cent.; that they also differed greatly in their vital energy and hardiness of constitution, some of equal age running out much sooner than others; and that the continuance of a variety and its exemption from, or power to resist disease, depended as much upon the above circumstances as upon its age.

Willis Gaylord, I think, (see Cultivator vol. 7, page 165,) expresses the belief, that "the formidable disease known as the curl, is the natural result of the old age of the variety, and indicates the failure of its vegetative powers." "The new varieties of this valuable root, those lately originated from seeds, have not, to our knowledge, been affected by the curl in the least. The inference, then, seems to be a fair one, that in the production of the potatoe, as in many other plants, a recurrence to the fundamental law of propagation, that from seeds, must be occasionally resorted to, in order to prevent deterioration. The new varieties of the potatoe, that have been introduced into culture in England and in the United States, from the seeds, exhibit a vigor and strength which none of the long cultivated kinds show." This last mentioned fact is confirmed by the statements of many English and American writers, and abundantly verified by experiments frequently made. In my reading, I have met with many passages similar to the following, which I extract from the Pennsylvania Farmer, published in 1804. Speaking of a field of potatoes raised from the seed, Eli Bronson, of Conn., says "Part of the field was better by one-half than the other part. In the best part, the seed was the second year from the balls; in the other part the seed potatoes were from the balls several years before, and had been planted yearly."

One of the most valuable communications respecting the potatoe, is found in Mr. Ellsworth's report from the Patent Office in 1844. M. Standinger, who had resided at Gros Flotbeck, near Hamburg, in Germany, near fifty years, paid great attention to the potatoe, and cultivated from the balls for *thirty-six years in succession*. His long experience and constant intercourse with practical men, and his habits of observation, give peculiar weight to his testimony. In view of the weakness in the vital energy of the plant, occasioned, he says, by constantly planting the tubers, he urges the importance of often raising new varieties from the seed; adding that those grown from the seed balls have a more vigorous growth than those obtained from bulbs, that have been used for seed for some years. His practice, which he minutely details, enabled him to raise as large a crop, both as to weight and measure, the first year from the seed, as could be ob-

tained by planting the bulbs. The opinion of the farmers, that it requires three or four years to bring to maturity and to a large size, potatoes raised from the seed, he considers not well founded, and attributes it to their unskilful method of cultivating them. And in relation to the disease among potatoes, that has spread over Europe the last few years, he expresses his belief that it is owing to degeneracy in the plant, and that the only effectual remedy is to start new varieties from the seed. In proof of this, he states "*that in the neighborhood of Hamburg, as well as also in Holstein, there is not the slightest trace of this disease to be seen, and no complaint of it has ever been heard; the reason of this being, that in the vicinity of Hamburg, there is always an opportunity of obtaining good seed potatoes,*" &c.

I did not intend, Messrs. Editors, to make any remarks about the cause or remedy of the present wide-spread disease in the potatoe; *that* I consider a distinct question from the one I had in view, and will leave it to be elucidated by other pens. That the older varieties of the potatoe are fast failing, and can be replaced only by renewing them from the seed; that the potatoe is susceptible of progressive improvement, so that there is reason to believe, varieties may hereafter be produced far superior in every desirable quality to any yet known; and that a large crop of good size for the table, may be raised from the seed the first year, so as to render it profitable to the grower; and that such seedlings, as a general rule, do remain fair and sound, while nearly all the old varieties are more or less diseased and running out, I consider facts well established. These facts have had a living illustration under my own eye during the last few years, while I have witnessed the operations and success of a neighbor, who has obtained the premium for the best and greatest variety of seedling potatoes at the two last Fairs of the State Agricultural Society. While I witness such facts, developed by persevering, well directed labor, I predict with confidence, that the potatoe will, or may, be perpetuated as long as seed time and harvest shall endure.

Buffalo, Jan. 4, 1848, H. A. PARSONS.

N. S. Smith's new and improved Buffalo Seedling Potatoes, comprising several sorts of Pinkeyes, Russets, Purples, Reds, Whites, Rareripes, Orange, and others not yet fully developed—all purely seedling—the product of a careful and expensive experiment of six years with the seed from the balls and its seedlings in alternate reciprocal culture. *Reciprocal,* because in each rotation the seed improves in seedlings, and the seedlings the seed. By this method of culture these potatoes have acquired a *healthy* and *early* character, are *very productive,* and of the *finest quality.* Having been for so many years in succession planted in April, (in their seed,) and early harvested, they have become *constitutionally* what they are, and with early planting, early digging, dry and airy storage, they will prove *sound* and *durable*—and the method continued, the development of new varieties and improvements will also continue.

Also, "*N. S. Smith's new and improved Buffalo Seedling Potatoe Seed.*" This seed was gathered in the balls last September, from a four acre crop of seedlings, from improved seed sown in April last. Six years alternate reciprocal culture with its seedlings, has given it an *early* and *very productive* character. It will produce seedlings of the size of small birds' eggs as early as in May. Season favorable, with good culture, it will produce the first season sown, about 200 bushels per acre, a good proportion of marketable size, sufficiently mature for the table, and seed balls in abundance. Tubers of the weight of 12 oz. were quite common among the young seedlings last fall, and on the roots of many single plants were found fully set and growing, hundreds of seedlings, though when so numerous, mostly small. In addition, this seed is impregnated (by the pollen in the blows,) with choice varieties, late from Germany, England, South America, Albany, Illinois, and home markets—mostly seedlings, interspersed for that purpose in the field; and it will represent when cultivated, all the distinct varieties grown in that field, besides an amusing freak of mottling, tinting and originality. The seed may be sown in April, like tomatoes, in a warm bed. Bleached cotton cloth, tacked on frames for potatoe beds, is better than glass. The beds should be open to warm rains and to all warm weather. The same hands in a given time will transplant with the young plants more ground than can be planted with tubers. (Particular directions accompany the seed.) These potatoes and seed were represented at the two last State and County Agricultural Fairs, and the first premiums awarded them. The cultivation of these potatoes and their seed will be continued at Buffalo with every possible improvement. Seedlings of approved varieties, carefully packed in chaff, and delivered at the wharf or depot in Buffalo, $5 per bushel—$10 per bareel. Transportation safe from frosts after February. Seed per paper—sufficient to produce 10 bushels—$1, with directions. It may be conveyed by mail with double postage. Orders and communications, post-paid, will receive prompt attention. N. S. SMITH.

Buffalo, January 13, 1848.

Extract from the Report of the Committee on Vegetables at the last New York State Fair.

"The committee on vegetables have reported, that for the greatest and best varieties of seedling potatoes of approved varieties, they award the premium of ten dollars ($10) to No. 73, presented by N. S. Smith, of Buffalo, N. Y. These potatoes were grown by the Rev. N. S. Smith, of Buffalo, who has favored us with the manner of their cultivation and production. He has been six years cultivating them from the balls that grow on top of the vines; his method is the alternate planting of the seed and tuber or potatoe, taking care to select always the best varieties. He has presented at the Fair as a specimen of his crop this season, thirty varieties of seedlings, all of them evidently of fine quality. His specimens of this year's seedlings, from the seed of his best seedlings, are very fine. He presents, also, fine specimens of seedlings from seed of seedlings grown last year in

Prussia, Germany, and fine varieties late from South America. Mr. Smith is confident, and the judges favor the opinion, that in his experiments a great improvement in the potatoe is already accomplished; and he hopes to be able to obtain permanently, potatoes, not only of the finest quality, but perfectly sound and hardy. The judges would recommend the attention of farmers to his specimens on the ground, and also to his mode of cultivation."

Signed by DAVID GRAY, Chairman.

DEEP PLOWING.

We have known few farmers who were not advocates of deep plowing. There can be no question of the many advantages of deep plowing, where the land will admit of it without injury to the vegetable mould. But it often happens that the sub-soil is so barren that by mixing it with the surface the whole mass is rendered sterile and unproductive, while in other cases the sub-soil possesses properties highly fertilizing. Hence, before venturing to mix a large portion of the sub-soil with the surface, it would be prudent for the farmer to make an experiment by plowing a few rows to the depth required, and then grow a crop on it before hazarding the effects of deep plowing upon an extensive scale.

Where the sub-soil is found to do injury by mixing it with the surface, great benefit will be derived from plowing with the coulter, which may be run to any depth without danger of injury. This process loosens the sub-soil without mixing it with the surface, and gives the whole mass capacity to hold sufficient moisture to protect the crop against the effects of drouth, and also prevents the soil from being washed away by the summer rains—for it rarely rains so hard as to carry off the soil, until the whole pulverized mass is saturated.

Even in the deepest soils where the plow cannot reach the sub-soil, the use of the coalter, or some such instrument, is highly beneficial; for, after a few years cultivation, the earth immediately below the range of the plow becomes compact and forms a hard crust, which cuts off the communication of moisture between the pulverized soil and the earth beneath.

WHEAT AND CHESS.

We have never been able to give our assent to the opinion generally entertained by farmers that wheat, when injured by frost, or from any other cause, changes to chess. We have always considered such a change as opposed to the economy of nature, but have heard the fact so often affirmed by intelligent individuals, that although we have ceased to controvert, yet we have never adopted it as a truth.

We have extracted the following paragraph from the Cultivator, for the purpose of showing how easy it is for even men of close observation to be deceived in such matters. We trust that some lover of truth will institute a series of observations upon this subject, and settle the question one way or the other:

"Wm. Powers, of Youngstown, Ohio, gives the following experiment in the

Ohio Cultivator: He was about sowing his wheat, believing it to be perfectly *clean*; but, on being advised, concluded to brine and lime it first. When the brine was poured on, to his surprise he found chess floating thickly on the surface, and on being skimmed off, about a pint and a half were obtained from each bushel of seed. This would thoroughly seed any ground; but if the wheat grew well, the chess would be kept small and hidden; where winter killed, it would spring up, spread out and occupy the whole ground, and be attributed by superficial observers, to the change of the killed wheat to chess. The wheat, however, was thoroughly cleaned by brining, so that where it was winter killed and fly-eaten, no chess appeared."

HOLCOMB'S HEMP-BRAKE.

The increasing importance of hemp as an article of commerce, has stimulated many ingenious minds to study out some mode of improving upon the old method of breaking by the hand. Among the many experiments of using machinery for this purpose, we have seen none described which seems to promise a better result than the invention of Mr. L. F. P. Holcomb, of Delaware. This is a combination of the stationary bed brake with the rotary brake. "The hemp is fed in by hand, broken and cleaned with but one handling—the breaking and cleaning being done on separate cylinders—but the parts so arranged as that they are brought close together, and so adjusted as to only allow the machine to touch that part of the fibre that is to be acted on, thereby preventing its wear in the machine."

In a communication from Chauncy P. Holcomb, Esq., to the editor of the Journal of Agriculture, he says:

"Nothing can be more simple in its construction. The rudest and roughest hands can work it, and with little danger of its getting out of order. The cost of it will be only from seventy-five to one hundred dollars, exclusive of the horse power. It requires about two horse power. From my own experience in the use of it, I can confidently say and assure my brother farmers of the west, that the largest crop of hemp they grow, would hold out no terror, so far as the breaking and scratching of it was concerned, with the use of this machine."

The writer says that the machine is capable of breaking and cleaning, ready for market, about one thousand pounds per day, and that only two hands are required to attend it.

A description and drawing of this machine may be found in the May number, 1847, of the Journal of Agriculture, published in New York.

Mr. Obed Hussey, a machinist of Baltimore, has become interested in this machine, and will furnish it to those who may desire to purchase.

ST. LOUIS STEAM SUGAR REFINERY.

This we believe, is the most extensive manufacturing establishment in our city, and perhaps the most extensive of the kind, in either the south or west.

The proprietors, Messrs. Belcher & Brother, have politely favored us with the following description of the establishment, and also, with the statistics connected with the business of the concern for the year 1847.

The establishment with its out buildings, fronting on Levee street, occupies an entire block of two hundred and forty in width by 125 feet in depth, having streets on its north, east and south, and an alley twenty-five feet wide on the west. The main building is one hundred by eighty feet, seven stories. Engine and boiler house, ninety by forty-five feet, two stories. Retort house, seventy by thirty-five feet. Office and work-shops, sixty by twenty feet; all covered with iron roofing. There is a water cistern in the establishment which contains 100,000 gallons; water-pipes connect with the city reservoir; there are hose attachments in each story, and also an engine house with hose, to guard against fire. Connected with the establishment, is a cooperage employing fifteen to twenty-five coopers.

The arrangement of the establishment, evinces much judgment and skill, and there is a completeness in all the details, that is truly admirable.

The amount of product for 1847, was 4,860,000 pounds refined sugar of all kinds; 8,000 barrels sugar-house molasses; 1,000 barrels golden syrup; being upwards of 9,000,000 pounds of refined sugars, syrups and molasses.

The establishment at this time, is turning off about 500 tons of refined sugar, syrup and molasses, per month. The number of persons employed at the present time, in all the departments, including clerks, is about one hundred. The workmen connected with the refining department, are mostly Germans, who are employed at wages ranging from eighteen to twenty-four dollars per month.

Cuba and Louisiana sugars, are mostly used in this establishment for refining. The best qualities of loaf crushed and powdered sugars and golden syrups, are made entirely of Cuba sugars. The medium and common qualities of refined sugars and sugar-house molasses, are made from the raw sugars and syrups of Louisiana.

We are informed by the proprietors that the advantages in the price of labor, fuel and bone slack, enable them to compete successfully with the refineries of the south.

The proprietors have shown a sound and discriminating judgment in selecting St. Louis as a suitable place for their enterprize. The freight of the raw material to this point, costs but little more than would the manufactured article, and therefore the difference in the cost of labor, fuel, &c., is nearly all a clear advantage in favor of the manufacturers here over those of the south. This is especially the case in regard to the refined sugars and syrups consumed north and west of this place.

This is a practical illustration of our theory of a system of commerce and manufactures adapted to the Valley of the Mississippi. In this case the raw material is produced in the extreme south, but is destined to be consumed in the middle

and extreme northern districts. It must necessarily pay freight to St. Louis, as a point of distribution, therefore, instead of sending provisions to the south to feed the operatives, besides fuel and bone slack to be used in the process of manufacturing, the raw material is brought here where all these necessary appliances are abundant, and cheaper than in the south. This policy is based upon the true principles of political economy, and the proprietors of this flourishing establishment may well be considered as among the benefactors of the country, for giving a practical illustration of a principle which seems to be so difficult of comprehension in the west; and we sincerely hope that the advantages and profits accruing to them as individuals, may be commensurate with the public benefit.

The following is a table of prices as established on the 1st of March, 1848:

PRICES AND QUALITIES OF REFINED SUGAR.

Packed in bbls. and boxes.			*Packed in bbls. and half bbls.*		
Double refined Loaf,		9	Double refined and crushed,		9
Small Loaf,	No. 2,	8¼	Crushed,	B,	8¼
do. do.	No. 4,	8¼	do.	C,	8
do. do.	No. 5,	8¼	do.	C, No. 2,	7¼
do. do.	No. 6,	8	Double refined, powdered,		9
do. do.	No. 7,	7¾	Powdered,	B,	8¼
do. do.	No. 8,	7¼	do.	C,	8

When less than 5 packages are taken, one cent per pound additional is charged.

On purchases of the above sugars to the amount of $500, 2½ per cent. discount; $1000, 5 per cent.

Clarified Sugars—White and Yellow, 5 to 7 cents; Sugar-House Molasses—in barrels and half barrels; Golden Syrup—in barrels, half barrels, and 10 gal. kegs. Farwell & Co., Second street, are agents for this city.

THE MISSOURI STEAM SUGAR REFINERY.

We learn from the proprietor of this establishment, Mr. Frederick Angelback, that he uses annually 500,000 lbs. Havana sugar, 1,000,000 lbs. Louisiana sugar, and 5,000 barrels of New Orleans molasses, and employs about twenty hands. This establishment produces double refined and refined loaf, crushed and powdered sugars, white and yellow clarified sugars, golden syrup and sugar-house molasses. The latter articles are put up in barrels, half barrels and 10 gallon kegs.

This establishment though not very extensive, is conveniently located, and well arranged for business, and has the appearance of thrift and prosperity. Messrs. Switzer, Platt & Co., No. 57 Main street, are the agents in this city.

ST. LOUIS COTTON FACTORY.

This is the only cotton mill within our knowledge, on the west side of the Mississippi river.* This establishment has been in operation about three years,

*We remember to have heard, some years since, that a cotton mill was about to be built in the northwestern part of Arkansas, but we do not know that it ever went into operation.

with sixteen hundred spindles. The mill employs about fifty hands and uses about six hundred and fifty bales of cotton per annum. We have not been furnished with the details of the business, but are informed by Mr. Adolphus Meier, one of the proprietors, that *labor is abundant and easily procured at prices as low as those paid by eastern manufacturers.*

This establishes an important fact, and is calculated to remove every doubt in regard to the advantages connected with the manufacture of cotton in St. Louis, for it would be an useless waste of time to undertake to prove that the raw material, provisions and fuel can all be obtained here cheaper than in New Engtand, and none can be so blind as not to perceive that if the fabric can be produced as cheap here as there, that the cost and charges incident to transporting it from the east, to say nothing of the profits to the merchant, are all saved to the western consumer. But more than all this, the establishment of manufactures affords a home market for western products, freed from the competition of other countries.

In collecting statistics for the WESTERN JOURNAL, we have been careful to inquire in regard to the facilities of procuring labor, and we have been uniformly answered that labor of every kind was abundant, and easily procured at fair prices. This is a state of things which those at a distance would not expect to exist in a country so newly settled and thinly inhabited. Most of the foreigners who come to the west land at St. Louis. Very many of them are mechanics and laborers who rely upon daily employment for subsistence, and as there is but little demand for farm labor, many remain in the city, and are compelled by necessity to labor for such prices as they can obtain. These are the principal causes of the abundance and cheapness of labor in St. Louis; and as long as foreign emigration shall continue to flow into the west, we hazard little in expressing the opinion, that labor will be as cheap, and probably cheaper, here than in any other city in the Union.

The proprietors of the St. Louis Cotton Factory appear to have acted with caution in the commencement of their business, and having taken ample time to tert the experiment, they are about to add one thousand spindles to their establishment. When we take into consideration the sagacity and prudence of the proprietors, this increase in their business affords strong proof that it has been profitable.

We acknowledge our obligations to J. M. P., for his interesting communication upon the subject of Electric Light. We should have been pleased to have given it a place in the present number, but our matter had been arranged for the press before its reception. It will find a place in the May number.

We are greatly indebted to Col. Benton and Judge Bowlin, for many valuable public documents.